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Report Progress on Two Plans To End Bid Shopping, Peddling

500 Hear Details Of New Chicago Plan

By George M. Hanning

CHICAGO — The "new Chicago Plan for Separate Bids," a joint construction industry effort to put an end to bid shopping and bid peddling and otherwise cure some of its bidding troubles, was given a thorough airing before more than 500 contractors, engineers, and architects here recently.

While the "full house" audience in McCormick Place appeared receptive to the plan, many sharp procedural questions were fired at the panel who explained its hoped-for operation and objectives.

This is the first of a two-part article on the Chicago Plan meeting.

Moderator Henry J. Couch acknowledged that the plan was not considered perfect. But it is one on which all elements of the industry — builders, architects, consulting engineers, general contractors, and mechanical specialty contractors — can agree.

Couch is executive secretary of the coordinating committee of Mechanical Specialty Contractors Associations of Chicago. He said that if the plan works 80% of the time, it will be considered successful. But the joint industry committee believes that if it ends bid shopping and bid peddling, it will be a success.

In essence, the plan is a recommendation that architects

(Continued on Page 6, Col. 1)

Bid Depository Works In New Mexico

ALBUQUERQUE, N. M.—A bid depository system inaugurated here last February "has been used on over 40 major jobs to date and has been very successful in eliminating bid shopping and bid peddling."

This was reported by W. L. Stripling, director of the New Mexico Sub Contractors Bid Depository System. He said there are now seven depositories in the state being used by mechanical and electrical bidders, and the system is being expanded as to type of users and area covered.

Tracing the growth of the system for the NEWS, Stripling explained that in October of 1960, a group of mechanical contractors requested The New Mexico Pipe Trades Industry Program to attempt to develop a system that would eliminate bid shopping and bid peddling.

"Committees from the AHPC, NECA, and the AGC were formed to meet together and formulate a system which would supplement the three-hour time limit plan of the AGC," he said.

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G-E Offers 6 Basic Room Unit Models

LOUISVILLE, Ky.—Six basic models of room air conditioners "designed to meet virtually every capacity and electrical requirement" make up the 1962 line of General Electric window cooling and heating-cooling units, the company announced.

The new models range from a bedroom unit with a cooling ca-

(Continued on Page 4, Col. 1)

NWAHACA Trustees Vote To Continue 'Shield' Support

Large, Enthusiastic Group at Convention

By C. Dale Mericle

CHICAGO—Encouraged by a large and enthusiastic turnout of dealer-contractors at its 48th annual convention here Nov. 8-10, trustees of the National Warm Air Heating & Air Conditioning Assn. voted continued support of the group's Silver Shield activities, along with a dealer sales training program now getting under way, manual revisions, and research.

Lack of manpower, however, will slow down the formation of new local Silver Shield bureaus in the coming year, disclosed Don Winegardner, of the Majestic Co., Inc., newly-elected president.

Efforts instead will be concentrated on the 18 bureaus already licensed and 16 others in various stages of formation, he said. As manpower permits, the headquarters staff will investigate requests for help in formation of new bureaus that have been received from dealers in scores of communities, it was explained.

Indicative of dealer support of the program is the proposal that each dealer member of local Silver Shield bureaus contribute at least $10 annually to a revolving fund that would be used for the creation of promotion materials. Introduced at the National Silver Shield Dealers meeting held during the convention, the proposal will be acted upon within the next few weeks.

More details on the NWAHACA convention will be published in future issues.

At $10 per bureau member, this could mean a fund of about $8,000.

The convention also marked the first of a series of 11 regional dealer conferences.

ARI Estimates $600 Million of Unitary Cooling Installed In '60

HOT SPRINGS, Va. — Installed value of unitary air conditioning equipment put in place in the U. S. during 1960 is estimated to total more than $600 million—more than half of it in homes—the Unitary Air-Conditioner Section of the Air-Conditioning & Refrigeration Institute reported to members of the ARI meeting here.

At the same time, ARI released estimated installed value figures for the five years ending in 1960, and announced that these dollar-value figures will become a part of the institute's statistical program in the future.

The figures for the five-year period follow:

ESTIMATED INSTALLED VALUE OF UNITARY AIR CONDITIONERS

Year	Residential	Commercial	Total
1956	$174,011,400	$290,796,100	$464,807,500
1957	176,230,800	226,582,300	402,813,100
1958	204,602,850	219,489,200	424,092,050
1959	266,675,850	283,136,700	549,812,550
1960	305,400,600	299,814,550	605,215,150

It is interesting to note that the value of residential installations in 1956 was 37% of the total, and that by 1960 the residential percentage had risen to over 50%, ARI said.

This is the first time that ARI has released figures on installed value of unitary equipment. Heretofore all statistics on this type of equipment have been on the basis of number of units shipped by manufacturers. Release of "installed value" figures was approved by the Unitary Air-Conditioner Section of ARI so that the size of this segment of the industry could be expressed in terms of compa-

(Continued on Back Page, Col. 1)

Inside Dope

By GEORGE F. TAUBENECK

Learn to live and laugh — thus delay your epitaph

Nobody Is Perfect

If you watched the political conventions on TV in 1960, you may have heard Edward R. Murrow refer to "Roxon and Nickefeller"—not once but twice.

And you also may have heard ABC's John Secondari call ex-President Hoover "Herbert Roosevelt."

These bloopers recalled other famous slips of the tongue over the airways. As many will remember, Mr. Hoover was the subject of one of the funniest introductions ever—by Harry Von Zell — who called him "Hoobert Heever."

Here are a few more hilarious tongue-slips:

Minneapolis columnist-commentator Cedric Adams once advised his listeners. "Ladies, this shortening need no refrigeration. It stays for weeks and reeks right there on your pantry shelf."

On his first big assignment, an ABC announcer disclosed, in pear-shaped tones, that his program was sponsored by the "Cerfect Pirkle Riston Ping Co."

From Gale Storm on one broadcast came the phrase "loogal leepholes."

Announcing a boxing match at Madison Square Gardens, one gent passed on to his unseen audience this dilly: "Ladies here at ringside are all dressed up. Looking around me, I see several gownless evening straps."

Actor Walter Pidgeon was introduced over the air by Harry Von Zell: "Mr. Privilege, this is indeed a pigeon."

And from a dignified announcer for the august British Broadcasting Corp. came this beaut:

"And now there will be a 21-sun galoot for the Queen."

How to Escape Their Clutches

Recently the British Wholesaler Clothing Federationist Union attempted to help English girls choose husbands.

Its manifesto insinuated that

(Continued on Page 10, Col. 1)

NHAW To Discuss Discount House Problem Nov. 27

CINCINNATI — A workshop panel session on the "discount house problem" and another on market analysis have been programmed for the 15th annual international convention of the Northamerican Heating & Air-conditioning Wholesalers association.

The convention will be held Nov. 27-29 at the Sheraton-Gibson hotel here. Theme of the meeting is "Challenging Changes In Sales and Marketing."

Registration and trustees meeting and luncheon are scheduled for Sunday, Nov. 26.

(Continued on Page 25, Col. 1)

Crane Appoints Parsons, Tinker

NEW YORK CITY — Robert F. Parsons has been assigned to the post of director of marketing for Crane's Plumbing, Heating, Air Conditioning Group, by Robert E. Casner, vice president and general manager of the Group.

Parsons joined Crane in a sales capacity in Seattle in 1950, was appointed manager of the Portland, Ore. branch in 1958, and has been western district manager, with offices in Los Angeles, for the past two

(Continued on Page 25, Col. 4)

Tube Manifold Names 4 to Management Posts

NORTH TONAWANDA, N. Y.—Appointment of four men to key management positions at Tube Manifold Corp. has been announced by C. Matthews, president.

D. Ireland

R. A. Creveling was named treasurer; David Ireland, general sales manager; Richard Hutt, chief engineer; and Chester Haber, plant superintendent.

Matthews said the appointment was part of an over-all reorganization plan that has been designed to bring the production and sales efforts closer together as a joint effort to offer more customer services.

Creveling has been assistant treasurer of the company since 1959, and at the same time, was controller of Standard Buffalo Foundry.

Ireland is from Detroit, where he was vice president of the Wolverine Bolt Co. for ten years, and was also employed by the U. S. Steel Co.

Hutt has been with Tube Manifold for five years as quality control supervisor.

Haber has been with Tube Manifold for three years, as general plant foreman.

Ireland indicated that Tube Manifold has been working closely with Linde Co. in the development of a new filter drier.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Sept. Distributor Sales Down 3%

WASHINGTON, D. C.—Sales of air conditioning and refrigeration equipment and supplies distributors in September were off an average of 3% from a year earlier and 12% from a month earlier, according to the latest monthly wholesale trade report by the Census Bureau.

For the first nine months of 1961, the distributors' sales declined 6% compared with the corresponding 1960 period. Their inventories at the end of September were 4% less than a year earlier.

September sales of plumbing and heating equipment and supplies distributors dropped 7% below September, 1960, and 9% below August. January-September sales declined 4% from the year-ago figure.

JIPC Meeting Dec. 5 To Cover Report on Temporary Plumbing, Heating, Cooling

MIAMI BEACH, Fla. — A progress report of the subcommittee on temporary plumbing, heating, and cooling specifications will be one of the highlights of the new quarterly meeting of the Joint Industry Program Committee.

The meeting will be held on Dec. 5 in the Americana hotel here. According to Chairman Fred W. Barth, the program also includes:

ALSO ON PROGRAM

1. A report of the subcommittee studying the problem of encroachment of non-union general contractors on work coming within the jurisdiction of JIPC.

2. Progress report on technical training as affecting apprenticeship and journeyman training, particularly under the Defense Education Act of 1958.

3. Better Heating - Cooling Council progress report — Franklin Greene, BHC executive director.

4. Progress report on contracting work at missile bases.

5. Report on President Kennedy's Executive Order No. 10925, calling for strict enforcement of non-discrimination in hiring for Federal construction projects.

6. Report on legislation affecting the mechanical contracting trades, enacted by or pending before the 87th Congress.

7. ASA plumbing code for mobile homes and travel trailers.

SPECS NOW BEING USED

At a meeting of the JIPC Temporary Heating, Cooling, and Plumbing Specifications Subcommittee Oct. 5 in Washington, D. C., it was reported that temporary heating specifications drawn up and approved by the JIPC have been adopted by the state of Massachusetts in contracting work and now appear in documents prepared for specific projects.

The specifications also are being used extensively in private construction work in Massachusetts, according to Frank W. Crimp, chairman of the committee on Specifications of the American Institute of Architects.

NEXT PROJECT

Next project of the JIPC subcommittee, headed by Eugene W. Bradshaw, general organizer, United Assn., is to work up a draft of temporary cooling and plumbing specifications.

The subcommittee, as well as Crimp and other AIA representatives at the meeting, agreed that temporary cooling is a tool of construction, according to a report by the National Assn. of Plumbing Contractors. The concept of temporary cooling as being for the comfort of the workmen was unanimously rejected by those present, it was pointed out.

Crimp and his AIA colleagues agreed to have a preliminary draft of temporary cooling and plumbing specifications in the hands of the subcommittee prior to the Dec. 5 meeting so Chairman Bradshaw can get the reaction of his group for a detailed report at the meeting.

ARW Report Shows Sept. Sales Up 7.11%

CLEVELAND—Total sales of 112 reporting members of the Air Conditioning & Refrigeration Wholesalers for September showed an over-all increase of 7.11% compared to the same month of 1960, the association announced.

Total dollar sales of those reporting, including 146 branches, amounted to $8,857,648 in September. This compares with $8,269,600 in the previous September.

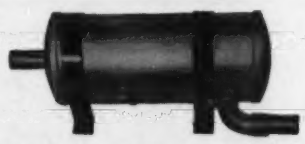
the companion to Thermobank...

KRAMER THAW® SYSTEM

A NEW AUTOMATIC HOT GAS DEFROST SYSTEM

for applications where LOW FIRST COST is the major consideration

One fan evaporator with heat exchanger



Metering accumulator with brackets

If low first cost is the major factor, the new Kramer THAW SYSTEM offers more than any competitive system. (For sharp freezing loads, or where compressor is outdoors, Thermobank is recommended.)

- No compressor overloading with hold-back valve.
- Faster defrosting because more heat is available.
- Positively cuts liquid return to the compressor.
- Has the largest liquid accumulator.
- Foolproof metering device.
- No clogging with removable strainer.
- Oil problems eliminated by gravity drain.
- No unnecessary defrost cycles.
- Heated copper drain pan.
- Double pan to protect heating coil.
- Aluminum casing on evaporator.

Removable Strainer

Timer

Hot Gas Solenoid Valve

Hold-Back Valve

Hot Gas Strainer

Check Valve

Write for Catalog T-480

KRAMER TRENTON CO., Trenton 5, N. J.

47 YEARS OF CONTINUOUS ACHIEVEMENT IN HEAT TRANSFER

AIEE Ready To Study Formulas Used In Estimating Electric Home Heating Cost

NEW YORK CITY—A decision as to what approach the American Institute of Electrical Engineers will take to altering the current formulas for estimating energy use for electrically heated homes is expected to be arrived at after discussion by the subcommittee on electric space heating and heat-pumps at its meeting here during the last week of January, 1962.

I. S. Coggeshall, manager of technical operations services for the AIEE, said, "Basically, it may already be said that the subcommittee is willing to cooperate to the maximum extent in making it possible to revise existing formulas."

His statement came in response to a call by Neal J. Hardy, Federal Housing Administration commissioner for revision in current formulas for estimating energy use in electrically heated homes.

In an article appearing in the Nov. 13 issue of the NEWS, page 26, Hardy called present formulas inadequate.

The electric space heating and heat pumps subcommittee of AIEE, Coggeshall said, "has been working with FHA in Idaho, but only along general lines, and nothing as definite as developing a formula. A letter was sent to FHA a couple of months ago by way of token of our recognition that a problem exists.

"I believe that a number of AIEE members have a lively interest in a re-examination, by one of our committees, of the factors entering into present formulas, with a view to an improvement along the lines to which Commissioner Hardy has called attention.

"AIEE, as a matter of policy, encourages its committees to cooperate with similar investigators in other engineering societies, and on engineering matters with engineers in trade associations and the government."

Coggeshall said, "One member who is connected with a prominent manufacturer of heating equipment told me that while the present formulas are based upon methods of estimate which had grown up by tradition and patchwork, hence are not theoretically correct, nevertheless, they do give reasonably correct answers to questions of costs of home heating.

"Principal inaccuracies arise in cases of poorly insulated homes. Servicemen have reasonably accurate information, prior to installation, of costs associated with heat pumps and radiant and resistance heating.

"A member connected with a utility told me that they have been successful in using present formulas to estimate annual heating costs in advance of installation.

"He mentioned the formulas of the American Society of Heating & Ventilating Engineers (now ASHRAE), as being adequate if carefully applied and if confined to well insulated homes.

"Some factors, such as lack of need for a flue to admit cold air and a reduction in the number of air changes per hour in the absence of combustion, operate in favor of electric heat.

"However, on account of the various designs to which floors, walls, ceilings, and window and door openings are insulated, the whole problem is a tricky one.

"Of course, electrical heating shares with gas, oil, and coal the variables of ambient atmosphere, weather, and climate," he concluded.

Not Working on New Formula, Says NEMA

NEW YORK CITY — The National Electrical Manufacturers Assn. is not working on the development of a new formula for estimating the electrical energy consumption for electrically heated homes, R. D. Smith, secretary, Electric Comfort Heating Equipment Section, has advised the NEWS.

Electric Heat Sales Survey Underway

WASHINGTON, D. C. — A survey of manufacturers' shipments of electric heating equipment for the year 1960 and the first six months of 1961 is currently being conducted by the Building Materials and Construction Industries Div. of the U. S. Department of Commerce.

John A. MacKinnon of the BMCI division said the closing date for the survey is Nov. 30. Publication date will be set early in 1962.

Two Promoted by Bohn's Danville Div.

R. I. Johnson

Lin Grisham

DANVILLE, Ill.—The promotion of Robert I. Johnson to assistant manager of the OEM Coil Dept. has been announced by C. B. Simison, manager of that department for the Danville Div. of Bohn Aluminum & Brass Corp.

At the same time, he announced the promotion of Lin Grisham to sales manager for the department.

Johnson joined Bohn in June, 1960, as a sales engineer in the OEM Coil Dept. He had previously been employed for eight years by another coil firm.

Grisham has also been a sales engineer in the OEM Dept. He joined Bohn a year ago after having held a number of assignments in application engineering and sales with other companies in the field.

Shopping Center To Have Conditioned Mall

DETROIT — A $2,500,000 shopping center being planned in suburban Southfield will feature an air conditioned mall.

The glass-enclosed mall will contain a sidewalk cafe, gardens, and walks. Visitors will be able to check their coats and walk from shop to shop in comfort.

Scheduled for opening in 1963, the project is called the Village Center.

TO CUT TUBING COSTS
ON THE DRAWING BOARD

Call Us Early

Value analysis of tubing problems is one of the services Rochester offers refrigeration people. It's a fast way to uncover savings and shrink costs on the drawing board. A Rochester Tubing Specialist might recommend a fresh application that will result in assembly short cuts or reduced waste on your line. And what Rochester recommends, Rochester delivers. Take end processing, as an example. Rochester has full facilities for swaging, piercing, shearing, upsetting, flattening and beading. In addition, Rochester Steel Tubing can be delivered ready for your production line in flat serpentines, cut lengths, or coils up to 3,000 ft. Available either single wall welded, or double wall brazed. To cut your tubing costs on the drawing board, contact the Rochester Tubing Sales Manager. He'll send help fast.

STEEL TUBING BY ROCHESTER PRODUCTS

ROCHESTER PRODUCTS DIVISION OF GENERAL MOTORS, ROCHESTER, NEW YORK

G-E Room Units--

(Continued from Page 1, Col. 3)

pacity of 6,200 Btu (model RL301A, 115 volts, 7½ amps) to a 16,300 Btu, 230-volt unit for multi-room or "whole house" cooling.

The consolidated line is "designed to eliminate consumer confusion in selecting the proper model and to reduce broad inventories and excessive display areas in dealers' stores," it was stated.

Emphasis in the new line, G-E said, "is on distinctive styling with a full array of features on every model including multi-directional air discharge, washable filters, concealed controls, ventilation, and fan speed and temperature controls which are simple as well as easy to operate.

"All of the 1962 models have been designed for quiet operation and engineered for reliable performance. They have highly efficient dehumidification systems with capacities up to 16½ gals. of moisture per day.

"The philosophy of the 1962 line was developed from an analysis of personal air conditioning needs of families and individuals throughout the country. It was determined that two models would fulfill the needs of persons who wish to operate their air conditioners on standard 115-volt house current.

"The smaller of these two units (RL301A), is designed for bedrooms, dens, offices, or similar areas and offers 'plug-in' convenience on existing adequate household currents. The second (RL401A, 115 volts, 12 amps) has more capacity (8,100 Btu) for larger bedrooms, living rooms, playrooms, or other similar areas.

"Three multi-purpose units were designed for homes, apartments, or offices with 230-volt current. They are the 9,300 Btu unit (RL501B) for smaller areas, a low-case compact model; a 12,500 Btu unit (RH601B) for cooling complete living areas or entire medium sized houses or apartments; and a 16,300 Btu unit (RH801B) for multi-room or 'whole house' cooling. The latter two models are offered in the high-case Thinline design.

"The sixth model is a heat pump model (HR581B) rated at 10,500 Btu on both heating and cooling."

All 230-volt models are also available as separately engineered 208-volt units.

Additional adaptability for specialized air conditioning needs and interests is provided by G-E with the "Easy-Mount" installation and "Porta-Cart." Both are designed for use with low-case models.

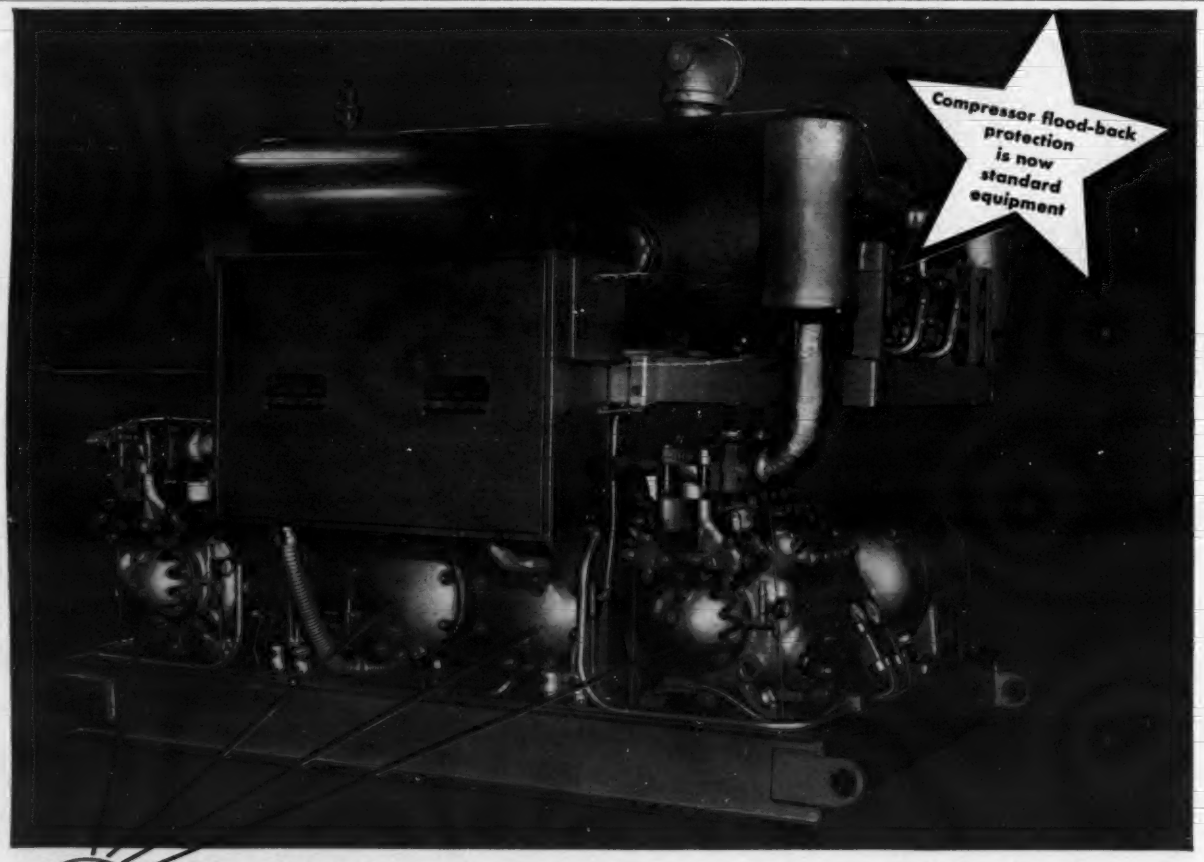
The 1962 G-E Easy-Mount "is completely new and features smooth, quiet, easy operation," the company said. "The Easy-Mount is available factory installed on two low case models (REL301A and REL401A) for do-it-yourself installation.

"The new Easy-Mount air conditioner carton is designed with the customer in mind. The compressor bolt is removed from the outside and completely frees unit from the skid. Carton is opened by pulling a tear tape which works much like a zipper. Entire unit is ready for installation in the window in seconds.

"In kit form the Easy-Mount frame can be attached to any G-E low-Thinline unit by the customer. The new side panels have small folding strips of aluminum held together on both sides with a tough, flexible layer of 'Tedlar' for a weather tight, rattle-free window installation. The panels pull out on either side of the case to fit sash windows up to 40 in. in width.

"The Porta-Cart can be moved from room to room easily and quickly and installed in most windows in a matter of seconds. An adjusting handle raises or lowers the unit to window sill height."

THIS 16,300 Btu General Electric 1962 Thinline room air conditioner features an infinite fan speed control which permits room occupants to adjust air velocities from quiet "low" to "high" for normal daytime use.



2 COMPLETE CIRCUITS WITH AUTOMATIC LEAD-LAG

The B&G Package Liquid Cooler is now available *with two complete refrigeration circuits*...dual compressors, dual condensers and a single evaporator! It has a capacity reduction of 25%—in stages of 100, 75, 50 and 25%. All operative and safety controls are installed and pre-wired.

An outstanding feature is the automatic lead-lag selector switch. In operation, No. 1 motor and compressor handle the load until cooling requirements are satisfied or until No. 2 unit needs to be called into use.

On the next starting, No. 2 unit picks up the load. *Therefore each motor and compressor gets equal usage!* This dual arrangement is also valuable because it provides stand-by protection in case of emergencies.

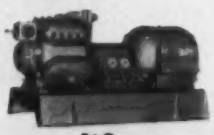
Remember, too, that all major parts of B&G "package" units are manufactured and guaranteed by Bell & Gossett Company...*one* responsibility for satisfactory operation.

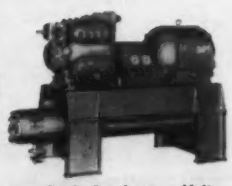
Send for complete engineering data on B&G Air Conditioning and Refrigeration equipment.

M-PAK
MODULAR PACKAGES

M-Pak units make it possible to build up from factory stock a comprehensive line of motor compressors, condensing units and package liquid coolers. Starting with five basic compressors, other stocked components are added to make up the unit desired. M-Pak Modular Packages are available for prompt delivery in capacities from 7½ to 150 tons.

B&G Compressor


B&G Motor Compressor


B&G Condensing Unit

B&G Package Liquid Cooler

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Wolverine Tube Appoints 3 to Marketing Posts

E. J. Campbell

R. C. Cash

ALLEN PARK, Mich.—Three major changes in its marketing organization have been announced by Wolverine Tube, division of Calumet & Hecla, Inc.

E. J. Campbell, sales manager of the Detroit district, will become manager of the Chicago district.

R. C. Crowe

R. C. Cash, manager of the Chicago district, was appointed to the newly-created post of market research manager, Research & Development Div. He will also be responsible for major government contract work.

R. C. Crowe, manager of the Cleveland district, will become manager of the Detroit and Cleveland districts, which have been combined.

For Your Reprint Copy

"Emergency Diagnosis, Repair of Hermetic Unit Electric Components," by John L. Zant, mail this ad with your name and address to: Air Conditioning, Heating & Refrigeration News, 450 W. Fort, Detroit 26, Mich.

Only 25¢ each.

McQuay Third Quarter Sales Equal 1960 Period; Earnings Advance Substantially

MINNEAPOLIS — Third-quarter net sales for McQuay, Inc., were substantially the same as for the same period last year, but net earnings showed a sizeable increase from $45,342 in 1960 to $79,709 in 1961.

This was revealed in the nine months report issued to stockholders by B. E. James, president.

Net earnings for the company amounted to 19 cents a share for the three months period on the 418,932 shares of common stock outstanding, compared with 10 cents a share on an adjusted basis for the third quarter of 1960.

Net sales of the company for the third quarter were $3,069,575, while in the same period last year net sales were $3,172,770. In the first nine months of this year, the company's net sales totaled $11,137,855 compared with sales of $13,606,100 in the first nine months a year ago.

Net earnings for the year to date were $354,786, compared with $398,689 a year ago. This amounts to 85 cents a share as against 95 cents last year.

"The increase in our earnings in the quarter just ended show an improving pattern as compared to last year and indicates a definite upturn in our business," James said. "We expect that this improving performance will continue for the remainder of 1961, resulting in another good year for McQuay."

Luxury Cooperative Apartments To Get Central Conditioning

NEW YORK CITY—Central air conditioning is planned for a new 15-story and penthouse luxury cooperative apartment building which has been started at 8 E. 83rd St., it was announced by Joseph P. Blitz, president of Joseph P. Blitz, Inc., builder.

The building will feature 10 duplex apartments, of which three will be located at street level. Two will have private entrances and will be, in effect, maisonettes or private town houses.

The structure will contain 84 apartments in all, ranging in size from three to seven rooms. Prices will range from $18,000 to $50,000, the builder indicated.

Janitrol Magazine Ad Wins Awards

COLUMBUS, Ohio—The full-color, consumer magazine advertisement "That's the Joy of Janitrol Air Conditioning," was judged an award-winner in two classifications in the annual international competition of the Affiliated Advertising Agencies Network, held recently in Chicago, the manufacturer reported.

The unique color illustration in three dimensions received top honors, a gold award, and the over-all ad design was given an award of merit, it was pointed out.

The ad, featuring year-round conditioning, has appeared in the semiannual consumer shelter magazines, the announcement said.

C. D. (Chet) Lyford, Ex-Honeywell Executive, Dies

MINNEAPOLIS — C. D. (Chet) Lyford, 64, a retired executive of Minneapolis-Honeywell Regulator Co. and a pioneer in the home heating industry, died Nov. 1 in Minneapolis.

He was a vice president of Honeywell from 1945 until 1956 when he terminated his business career upon recommendation of his physician.

For several years preceding his retirement he was in charge of gas control sales in Honeywell's Residential division and also directed the company's activities in the field of electric heating. Lyford had been associated with the residential heating industry since 1919.

Cobell Names Boyd To Newly Created Vice Presidency

CLEBURNE, Texas—Sam B. Boyd has been elected to the newly-created position of vice president of sales for Cobell Industries, Inc., manufacturer of "Rangaire" air conditioning and heating equipment.

S. B. Boyd

The announcement came from Harold B. Bailey, president of Cobell, following the annual board of directors meeting. Boyd has been sales manager of Cobell since joining the company three years ago. Before that, he was head football coach at Baylor university.

Bailey explained that Boyd's new position will include the formulation of over-all marketing policy and direction of the company's new expansion program for Rangaire equipment.

2 Deaths Blamed on 'Unvented Heaters' In California

SAN FRANCISCO—Two persons are dead because, it is alleged, heaters had no vents.

Legal action was reported by the Division of Housing of the state department of industrial relations, as follows:

"A criminal complaint was filed by the Division against a Lake Alpine resort owner for failing to comply with State Motel act requirements for vented heaters.

"Division orders to comply had not been met at the time two persons died in August from carbon monoxide at this project."

Another report reads as follows:

"Misdemeanor criminal cases, filed by the Division of Housing, are pending against two southern California trailer coach manufacturers for violations of the regulations for Heating, Electrical Equipment, and Plumbing, in trailer coaches."

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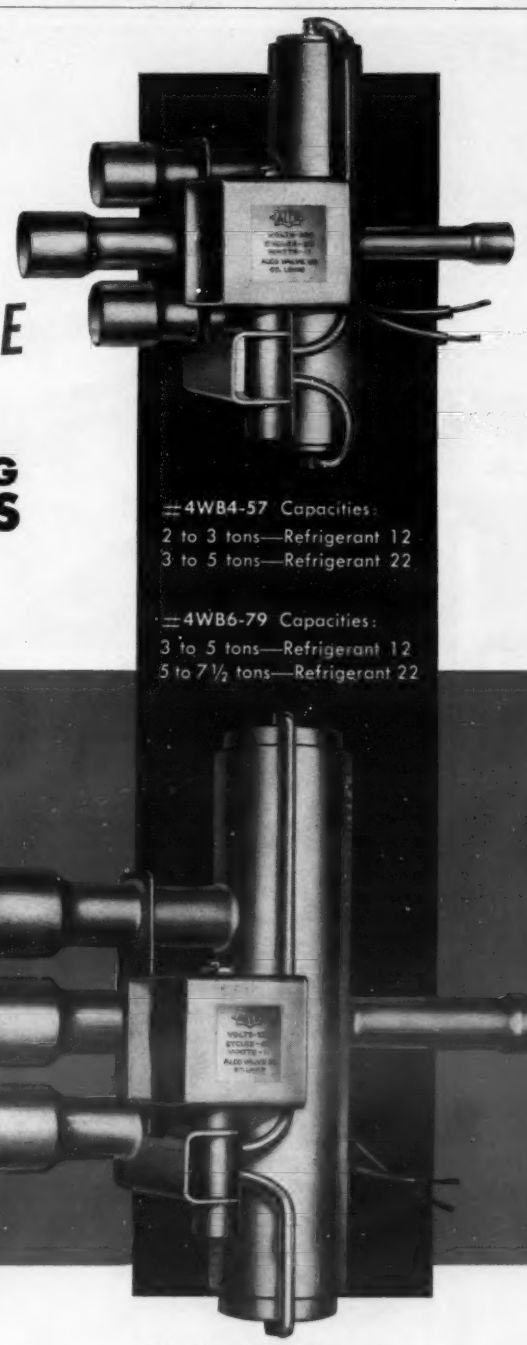
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'New Chicago Plan for Separate Bids'--

(Continued from Page 1)

and engineers establish, with the cooperation of the general contractors and the mechanical specialty contractors, a procedure for all building construction that will permit separate bids in five categories of work. Bids that will be limited to a specific number of pre-qualified bidders leading to a single contract under a general contractor.

The suggested procedure—for this must be done voluntarily by the owner, architect, and consulting engineers involved — is outlined in seven steps. (See Nov. 6 issue, page 1.)

John Dolio, consulting engineer, representing the Chicago Association of Consulting Engineers, commented that it is a simple matter to change general specifications so that separate bids can be taken.

J. C. Sanderson, director of plant properties for Northwestern university, representing the viewpoint of the owner, cautioned, however, that taking separate bids demands more carefully written specifications than has been the case in the past to eliminate confusion as to which contractor is to perform specific tasks — such as providing temporary heat and electricity.

E. H. Marhoefer, Jr., representing the general contractors, noted that the purpose of the second step is to give the general contractor a basis on which to establish his fee for supervision, expediting, and coordinating the work of the mechanical subcontractors. A reasonable margin of error on the estimate will not cause any difficulties for the general contractor, he said.

The third step will require the general contractor to take a bigger personal interest in the job and will assure a better job for the owner. It would eliminate the type of general contractor who is merely an "auctioneer" parceling out subcontracts to the lowest bidder.

Couch emphasized that the fourth step meant take separate bids, not let separate contracts. Purpose of this provision, he said, is to eliminate the interval between the letting of the general contract and the letting of the mechanical contracts. It is in that interval that bid shopping and bid peddling takes place.

Couch defined bid shopping as an unregulated auction by the general contractor for lower bids among mechanical specialty contractors. He defined bid peddling as an offer by a mechanical contractor to underbid the low bidder by a certain percentage, sight unseen. Both types are outside the framework of normal competitive procedures.

"It is hard to critize individuals for adopting these practices," he said, "when they are common in the industry. We must therefore change the system."

Couch added that "it is economically senseless to take bids from an unlimited number of bidders. This costs money and must be paid for.

"It is desirable to eliminate bids by unqualified bidders and the embarrassment of having the low bid submitted by an unqualified bidder."

The plan, he said, offers no criteria for pre-qualifying bidders. That is up to the owner, architect, and consulting engineer. Qualifications would include, generally, the ability of the contractor to perform the type of work in question, his past record on such work, his know-how, his financial stability, and his ability to work with the particular general contractor and architect on the job.

"Very soon," he said, "the state of Illinois will not accept bids from contractors who are not pre-qualified. The state has prepared a pre-qualification form which it sends to contractors who wish to bid on state business. It qualifies the contractor on the basis of this form."

Edward Matthei, representing the architects, commenting on the fifth and sixth steps, said that the list of pre-qualified bidders should be limited to those whom the architect and the owner are willing to give the bid, if he is low, without qualification.

Consultation with the general contractor on the acceptability of the bidders is essential. If he has any legitimate reason for not being able to work with a particular sub-contractor, it should be considered in the light of what will be best for the owner.

Number of Grey Areas

Matthei admitted that there are a number of grey areas in these steps that need more discussion and which will have to work themselves out in practice.

For example, should the architect write the contract for the mechanical work or should he assign the low bid to the general contractor and let him write the contract? Should the general contractor be permitted to bond certain sub-contractors?

We have to protect the general contractor as well as the mechanical contractor, he said.

Step seven is not optional, Matthei said. It is mandatory.

"From the architect's standpoint," he commented, "the Chicago plan gives some control over the quality of work we can expect. We are interested in the plan because it is an honest effort to clean up bad practices in the industry. We are also interested in anything that will get the job done in the shortest possible time.

Couch added that the architect's right of rejection of certain contractors is rarely exercised because it raises problems. Pre-qualification eliminates these problems.

"The reputation of the architect rests on the work of the mechanical contractor," he said, "on how well the conditioning, the electrical system, and the plumbing works.

Architect's Reputation Suffers If Cooling Fails

"Failure of the air conditioning system is the failure of the man who installs it. But the architect is the man who gets the blame, whose reputation is damaged."

W. A. Kuechenberg, representing the mechanical specialty contractors, pointed out that the seventh step, dealing with payments, seemed to be the most reasonable way of handling payments.

The original Chicago plan as drawn up by the mechanical specialty contractors, he noted, called for direct payments to them. But, it was felt that all contractors should be protected.

The practice of accepting waivers before the contractor has been paid is growing and needs correction, Kuechenberg warned.

(To Be Continued)

Chief Architect: Alfred Shaw, Chicago • Consulting Engineer: John Dolio, Chicago • Consulting Structural Engineer: Carl A. Metz, Chicago

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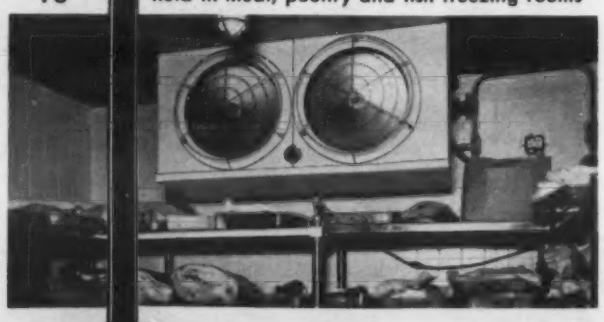

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New Office Copying System Cuts Costs, Eliminates Errors at Lennox Industries

SYRACUSE, N. Y. — Annual clerical savings of $8,500 have been realized by Lennox Industries, Inc., after installation of an Eastman Kodak "Verifax" copier to expedite processing of production orders, according to production control manager Melvin Brown.

"Beyond this are the savings that come from the elimination of errors," Brown offered.

"It takes a lot of individual parts to make the modern furnace or air conditioning units which comprise today's home comfort systems. And along the way to the final assembly point, where all of the right parts must arrive at the right time, each piece and each subassembly must be accompanied by a production order," he continued.

Handwritten Orders Were Potential Dynamite

Because of the wide variety of models needed to fill the requirements of their sales outlets, each month's production at the Syracuse plant of Lennox Industries, Inc., was different, determined by the sales activities of their dealers. And each month a whole new set of production orders, often as many as 5,000, had to be put together for all of the parts to go into that month's production. Handwritten, each of these production orders was potential dynamite in the possibility it offered for transposed parts numbers, wrong quantities and such.

How Old System Worked

Under the old system the production setup on each model produced at Syracuse was worked out on large spreads. From these spreads monthly production schedules were made up listing the operations and the parts to be used each month. Production schedules listed sub-assemblies and parts for each as well as order numbers. These sheets, kept in large notebooks, covered the four or five weeks of the month, each month being identified by a separate color. A complete assembly of a particular part was usually covered on a single line across the sheet. Each assembly and each part in it had to be covered by individual production orders.

Under the old system, too, the ten members of the planning department, including the executive staff, had to spend almost one week a month to get out the required production orders. Copying a series of numbers by hand under pressure sometimes resulted in transposition of parts numbers and errors in quantity, with the attendant disruption of production schedules when they went undetected.

To eliminate this a great deal of time was also spent in proofreading the handwritten orders. Yet, no matter how carefully they were proofread, an occasional error did leak through.

Mechanics of New System

The present system utilizes the old system's file of master production orders. There are more than 50,000 masters—one for each part and each subassembly of all the units produced in the Syracuse plant. These are kept in a master file in the firm's planning department.

Up to ten Verifax copies of each of these production orders are maintained in a separate file; the entire copying operation being handled by the receptionist in her spare time.

As production draws the Verifax copies from the active file she refills it with new Verifax copies made from the masters.

On especially active parts a backlog of ten copies is maintained. One or two copies for less active parts have proved to be sufficient in these cases.

The average number of copies maintained will probably average six.

Two copies are made of each and every order; a yellow copy for the accounting department and a white copy for the production department. The workmen in the factory prefer the white copy because their pencil notations show up so clearly upon it.

"Because the master copies are typed and the Verifax copies are exact facsimiles of the material contained upon them, reading is easy and there is no possibility of an error creeping into the system," says Brown.

"Still more important and impossible to evaluate in dollars and cents is the saving in time of the members of the production control department. Under the old system one quarter of their time was spent in nonproductive clerical work. Today that time can be spent in planning, thinking, and working out new methods," Brown concluded.

No. Calif. RACCA To Convene Feb. 16-17

SAN FRANCISCO — Announcment that Sacramento will be the location for the 5th annual convention of the Refrigeration & Air Conditioning Contractors Assn. of Northern California was made by M. Maroni Smith, executive secretary and counsel.

The convention will be held at Sacramento Inn Feb. 16-17. Also the quarterly meeting of California Council of RACCA's will be held at the same place during the same weekend.

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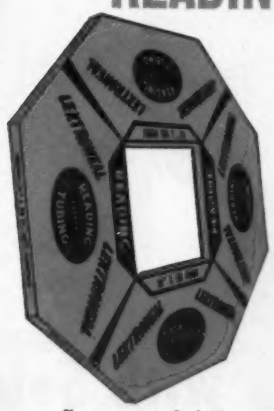

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Some Tips on Using Them

Meters Will Tell You What's Wrong with Motor and Where It's Wrong, Servicemen Told

By George M. Hanning

DETROIT — To troubleshoot electric motors, the serviceman must have something to shoot with. That means a snap-around ammeter or a volt-ohm-milliamp meter, Walter Scott, technical advisor for the White-Rodgers Co. at Cleveland, told the Greater Detroit Chapter of the Refrigeration Service Engineers Society recently.

"Meters will tell you what is wrong and where it is wrong," he said. "If you have a motor kicking out on overload, a meter will tell you quickly whether your trouble is a low voltage condition, a burned out thermal overload protector, or a burned out motor winding. You don't have to guess.

"With an ohm meter you can check the capacitor in a capacitor start motor. If the capacitor is good, the needle in the meter should go all the way over and then start walking back.

"If the needle goes all the way over and stays there, there is a short in the capacitor. If the needle doesn't move, the capacitor is inoperative."

Scott pointed out that meters generally are provided with multiple scales to handle different ranges of volts and amps. If more volts and amps are passed through the meter than the scale setting can handle, there is danger of burning up the meter.

Therefore, he advised servicemen, always set the meter at the maximum capacity scale and work down until a reading is obtained. This should be done whether volts, amps, or ohms are to be read.

Scott noted that meters, through the use of resistors, can handle considerable voltage, but they won't take much amperage. Therefore, when measuring amperes, most of the amperage is shunted across the leads without passing through the meter. Only a small but proportional amount of amperage registers.

When the meter does not have sufficient capacity to handle the starting, or locked rotor, amperage of a motor, a by-pass switch is needed to let the starting amperage by-pass the meter. After the motor gets up to speed, the meter is turned on, and a reading is taken on running current only.

The serviceman can get the normal running amps, voltage, and operating temperature off the motor nameplate. This will give him an indication of what to expect. But to be on the safe side, he should always try maximum instrument scale first.

Scott explained the operation of meters. He pointed out that a current passing through a wire sets up a magnetic flux around it. The resuting magnetic field sets up lines of force moving in one direction between north and south poles.

Opposite poles attract each other; like poles repulse each other. This attraction and repulsion, varying according to the amount of current supplied to the meter, causes the free swing needle to move from one side of the calibrated scale to the other. The distance moved indicates the number of volts across the meter or the amperes passing through the meter.

When the lines of magnetic force all move in the same direction, a snap-around ampere meter will read the induced current produced by them. But a cord containing two wires has the lines of force moving in the opposite direction on the adjacent wire.

An ammeter put around the cord will produce no reading because the lines of magnetic force cancel each other and cannot produce an induced current, Scott explained.

When a meter has an off position, he said, it should be turned off when not in use. This off position shorts across the coil in the meter to dampen the movement of the free-swinging needle. Otherwise, bouncing around in a truck can throw the meter out of calibration.

Scott also spoke briefly on tracing out wiring diagrams. He advised the servicemen to always start at the source of power and work around the circuit until they came back to the source of power again.

'Universal Parts List' Cuts Stocks For Bryant Dealers

INDIANAPOLIS — Using a "Universal Parts List" approach, Bryant Mfg. Co. has reduced the number of electrical components required to service its electrical air conditioning equipment.

"You can now stock *one* part to replace several similar parts," Bryant tells its outlets. "This will simplify your inventory and will reduce service time, since the limited inventory on a truck can be used to better advantage."

A measure of the inventory reduction possible with the new approach is seen from such items as the following:

LINE STARTERS and CONTACTORS — "The universal parts list has *one* contactor and *one* line starter with 15 different overload protectors. Formerly we listed 72 different line starters and contactors."

STARTING RELAYS — "Five relays now take care of all starting relay requirements; this represents a reduction of over 90% of the original number."

FAN and CONTROL RELAYS — "One relay can be used to replace all fan and control relays. Push-on adaptors, to be used with the relays, are available at nominal charge."

CAPACITORS — "Five run and four start capacitors now replace 68 different start and run capacitors originally needed."

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Credit Card for Service?

Contractors Discuss Ways To Assure That Service Customer Will Pay Bill

By George M. Hanning

DETROIT — Two suggestions and a warning were recently offered to servicemen who make emergency service calls and then find the customer either unable or unwilling to pay for the call.

At a round table discussion of the money end of service, staged during a recent meeting of the Detroit Heating & Air Conditioning Assn., Cliff Andrus, heating inspector for the city of Detroit, suggested that dealers accept recognized credit cards for service calls.

In this way, he conjectured, the customer would be saved the embarrassment of not being able to pay on the spot for a middle of the night call and the serviceman would not have to argue about it. The dealer would also benefit because he could charge a little better price for a credit sale which the customer would more readily accept.

Andrus said that he did not mean that the association itself establish a credit card service, but the contractor should tie-in his service customers with a recognized service card operation.

Make Sure He Knows It's COD

A second suggestion came from William Smith of Aston Products, Inc. He said that when he was operating a service business, the girl who took the call would ask "Will there be someone there to pay for the call?"

In addition to this assurance before the serviceman was dispatched, when the serviceman arrived at the customer's premises, he would again check the customer to see that he understood that the call was COD. If the customer indicated that he could not pay COD, the serviceman would ask permission to check back with the office first.

This routine, Smith testified, worked very well and prevented involvement in uncollectable accounts.

Al Norris of Reliable Heating & Cooling, who moderated the discussion, commented that if a customer called on a cold night because his furnace was not working, he would not have the nerve to quibble with him about payment before making the call. He contended that while he often faced this problem, he very seldom ran into a customer who refused to pay, even if a week or so later.

Smith pointed out that if the serviceman does a good job and the customer is satisfied, the customer will pay without argument. It is only when poor service is given that the contractor has to worry about payment.

Can't Remove Installed Part Without Court Order

It was Norris who issued the warning. If, on a service call, the serviceman replaces a part on a furnace and then finds that the customer can't pay for it, he cannot remove the part from the furnace without the customer's consent or without a court order.

This is so, Norris noted, regardless of what your contract might say about equipment remaining your property until paid for. Once it is installed, it becomes part of the realty, whether paid for or not, he asserted.

A check of contractors present indicated that their minimum service charge ranged from $6.50 to $7.50. Their labor rate ranged from $3 to $4.68 per hour with fringe benefits.

Tony Miller of Miller Heating & Air Conditioning Co., president of the association, was one who charged $7.50 minimum.

"You will have no trouble getting $7.50 an hour if your serviceman acts like a serviceman when he goes out on a job and he performs a service for the customer," Miller advised his fellow contractors.

"When a service call comes into our shop, the girl qualifies the customer first. She asks whether the customer has checked to see if a fuse has blown, that the thermostat is all the way up, and other such simple troubles.

"If all these are in order, she knows the customer really needs a serviceman. She then informs the customer that the charge will be $7.50 per hour, starting from the time the serviceman leaves the shop until he returns, plus cost of parts.

"If this seems unreasonable to the customer, it is suggested that he try someone else because others will take the call for less. But if the customer accepts the charges, the serviceman is dispatched."

Miller pointed out that when the serviceman gets on the job, he goes about his work in a professional manner, using instruments to check for the trouble, making the required repair as quickly as possible, checking the system to make sure that it works properly, showing the customer just what he has done, advising him of what more needs to be done, and offering to do it then and there if possible. He also cleans up after he is finished.

For that type of work, Miller said, the customer will gladly pay $7.50 per hour.

He observed that as far as he is concerned, service is a profitable business and not a necessary evil. He said he would take all the service business he can get in preference to installation work.

Mfrs. Rep. Shouldn't Quote List To Customer

In another discussion, Norris contended that a manufacturer's representative has no business quoting a "suggested list" price to a consumer who is buying from a contractor. By so doing, he can undermine the customer's confidence in the contractor's pricing, he indicated.

Norris also commended a wholesaler for checking with him first when approached by a consumer who was attempting to buy equipment in Norris' name.

"We often criticize wholesalers for back-door selling," he said. "We should also give credit to those who don't."

48-year-old Kramer Trenton specifies tubing by WOLVERINE

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An acknowledged leader in the manufacturing of air-cooled condensing equipment is Kramer Trenton Co., of Trenton, New Jersey.

A prime example of Kramer design is its Unicon model, illustrated above, which, in its largest series, is said by Kramer to have 50% more capacity than any similar unit.

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J-9744

Inside Dope

By GEORGE F. TAUBENECK

(Continued from Page 1)

a man who wears Bermuda shorts to work still needs his mother; that the man who wears a light-colored shirt in summer is good executive material, etc.

These British gents, however, didn't offer to help a man pick a good wife by the way she dresses.

An anonymous Friend of Mankind offers to redress this grievance, to wit:

1. If a girl wears a dress so tight it looks as if she had been poured into it—look out. (Twenty years from now she'll be as fat as her mother.)

2. If she looks good in a swim suit, don't be carried away, Buster. (Only 2% of marriage is spent in a swim suit.)

3. If she keeps saying, "I haven't a thing to wear," no dice—unless your income is over $25,000 annually.

4. When a charmer turns her back coyly and coos: "Will you zip me up?"—run for your life, lad. It's you she wants to zip up.

5. The gal who wears a simple black dress which has no frills or ornaments on it—just simple black curves—(out of my way, chum, I saw her first).

Stories of the Week

Sad story ("wife and five kids starving") so touched a merchant's heart that he filled a large sack with groceries and God-blessed:

"These are on the house. Hope they help."

Bristled the Needy One:

"How about my trading stamps?"

Those Frenchmen are pretty smart cookies when it comes to women. Witness:

At the justly famed *Tour d'Argent* restaurant in Paris, the menu handed to men contains prices for each dish. Menu given to women doesn't.

Thus, tactfully, the bill-payer can "recommend" a dinner which won't break him.

Sir Winston Churchill and Sir Stafford Cripps (memorialized by radio announcers as "Sir Stifford Crapps") were guests of honor at a banquet-of-state in Turkey.

As usual, Sir Winston drank heartily. Again as usual, crimson-faced Sir Stafford refrained —and was embarrassed by bibulous Churchill.

"You see," Sir Winston twinkled to Turkish Prime Minister Menderes, "we complement each other. I do the drinking, and he has the red nose."

Lifetime ambition of Giovanni was to sing with the Metropolitan Opera. So he studied years and years to become a leading tenor.

Sad to relate, he never became more than a niner.

"There's one vote I can count on," smirked a Congressman, after he had paid his taxicab fare.

"Tipped him big, no doubt, and asked him to vote for you?"

"No. I didn't tip him, and suggested that he vote for my opponent."

When a girl says no to a proposal she usually expects to be held for further questioning.

"Advertising costs me too much," observed this physician.

"How come? I thought doctors didn't advertise."

"We don't. But my wife reads advertisements."

Here's how an ambitious girl can become a Public Figure:

Don a Bikini swimsuit.

Quotes of the Week

Modern man takes life far too seriously, and because he is too serious his world is full of troubles. The importance of humor should never be forgotten. For sense of humor changes the quality and character of our entire cultural life.

There is a purifying power in laughter—both for individuals and for nations. If they have a sense of humor, they have the key—to good sense, to simple thinking, to a peaceable temper, and to a cultured outlook on the world.—LIN YUTANG.

To close the door behind us so that yesterday's pack of worries do not rush in to destroy today's peace of mind is one secret of efficient living. As Dr. Leslie Weatherhead of London puts it, "Do not follow your own hearse."—RALPH W. SOCKMAN.

I'm thoroughly convinced that the greatest asset Russia has is the attitude of the people toward work. Monetary gains are secondary, completely secondary, to recognition and satisfaction of a job well done.—CHAS. G. MORTIMER.

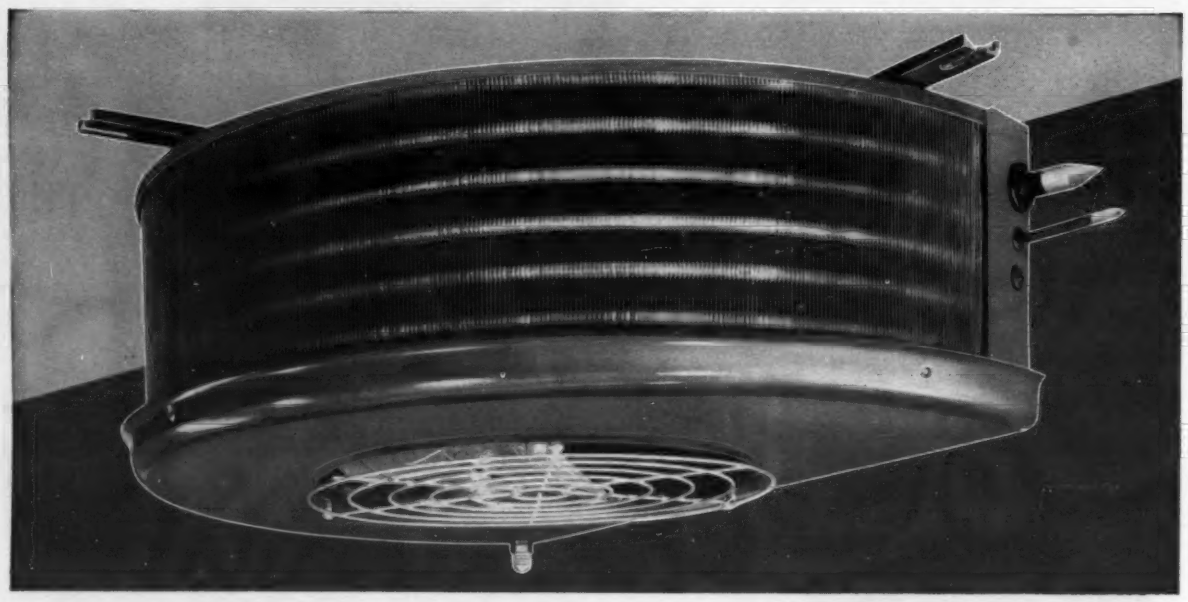
Sometimes I think the real menace to America is not Communism at all. Sometimes I think we are just going to bore ourselves to death.

If the oncoming generation does not soon present us with the wondrous gift of laughter, somebody better had.

The American civilization which we all cherish could go down either with a whimper or a bang, as the poet's phrase suggests.

It could also end with us just sitting solemnly on our lawn chaises — overfed, over-sanctified, and overbearing—talking a suicidal stuffiness. — ERIC F. GOLDMAN.

The Space-Saving
LARKIN Half-Turret Humi-Temp
Balances Temperature and Humidity



Larkin Half-Turret Humi-Temps are quality engineered to control temperature and humidity in applications above 35°F. Units mount flush to cooler wall and ceiling permitting maximum storage space.

Scientifically designed air diffuser assures uniform distribution of air, 100% usage of coil surface, more effective leaving air. Lip on drip pan forces air up and out and prevents cold air from re-entering the evaporator.

It will pay you to investigate the advantages of the Larkin Half-Turret Humi-Temp—another quality refrigeration product with traditionally fine engineering and workmanship.

See your wholesaler or write for Bulletin 1049B.

Features That Sell

- Built-in heat exchanger
- Original, patented Larkin Cross-Fin Coil with staggered electro-tinned copper tubing and aluminum fins
- Light-weight, rust-proof aluminum case finished in Larkin Blue or gleaming white
- Permanently lubricated motors, resilient mounted, with thermal overload protection
- Hinged drain pan for easy access to coil
- Airplane-type, vibration-proof fastenings
- Heavy die-stamped mounting brackets, slotted for easy mounting
- Fully insulated drip pan

BASIC RATINGS

Model	Capacity Rating Btu/hr @ 10° TD F	Total Surf. Area	Cfm
HT-25	2500	74	500
HT-35	3500	85	700
HT-45	4500	107	900
HT-54	5400	154	880
HT-68	6800	189	1120
HT-87	8700	228	1400
HT-106	10600	296	1850

LARKIN TURRET HUMI-TEMP ALSO AVAILABLE

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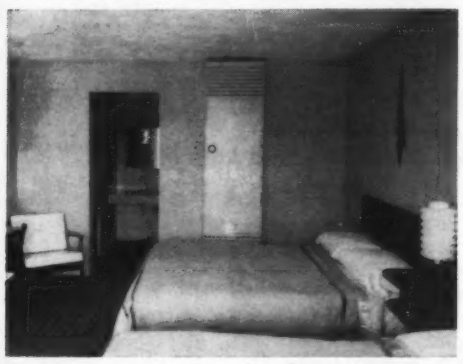

EACH OF 42 new rooms in the Aragon motel are equipped with heat pump distribution units containing fans and coils. Occupants merely dial comfort they like on units' thermostats.

Central Heat Pump for 42-Room Motel Addition Has Room Control

FRANKLIN PARK, Ill.—A central heat pump system that offers individual room control of heating and cooling is providing comfort for guests in a recently-completed 42-room addition to the Aragon motel here.

According to Commonwealth Edison Co., the Aragon is the first motel in the 11,000 sq mi service area of the utility to place a central heat pump system in operation.

Louis A. Lasky is the owner of the motel which also features a new swimming pool, restaurant, and conference rooms among its modernized facilities.

The "Wether-Bee" heat pump was custom-engineered for the motel by Heat Pump Systems, Inc. According to J. C. Haried of the Aurora, Ill., firm, the comfort system is specifically designed for effective and economical operation under local climate conditions. It reportedly was installed for slightly less than the cost of comparable conventional facilities.

The heat pump uses a closed circuit piping system to distribute heated or chilled water to individual fan and coil units in each room. The temperature of the water is raised to about 120°F for heating and lowered to 45° for cooling. Outdoor air provides a partial source of heat energy as well as functioning as the "sink" for excess heat.

A control panel in the motel office enables the owner to turn room units on or off, as required. Other economy features of the heat pump system include its use as a source of heat for tempering swimming pool water and for pre-heating the motel's hot water supply.

Westinghouse Gets Hospital Contract

BALTIMORE—A contract for air handling equipment to cool, heat, and clean the air in the new Children's Medical & Surgical Center at Johns Hopkins hospital here has been awarded to Westinghouse Electric Corp.

Westinghouse is providing the equipment for four central air conditioning and heating systems which will be installed in the new building beginning next year. Completion of the installation is scheduled for 1963.

The equipment includes: 28 heavy-duty airfoil fans; seven sets of cooling and dehumidifying coils, and also heating coils; and four "Precipitron" electronic air cleaners.

The Westinghouse Sturtevant division at Hyde Park, Mass., is building the air handling and air cleaning equipment for the H. E. Crook Co., Inc., mechanical subcontractor for John McShain, general contractor.

Consulting engineer is Henry Adams, Inc.; architect, James R. Edmunds, Jr.

Packaged Unit System Cools, Heats Pittsburgh 4-Story Office Building

PITTSBURGH—Another successful example of a building's use of packaged air conditioning units as opposed to a central system is highlighted in Lebanon Towers here, a four-story, 98,000-sq ft office building, according to a report by Worthington Corp.

Here the management, through its air conditioning contractor, Martin Brothers, Pittsburgh, decided to use package units to air condition and heat the building.

All Air Products, Inc., Pittsburgh, a Worthington distributor in this area, was called up to design the 280-ton capacity system which includes: 16 Worthington 15-ton packaged air conditioning units with hot water heating coils; two boilers, each for 100% capacity; hot water circulators; condensing water pumps; and cooling tower tank.

In addition, a bowling alley located in the building uses two Worthington RCY 2059 units.

Each air conditioning unit handles one zone for which it is controlled. To supplement the units there are four zones of perimeter heating.

In order to regulate the condenser water flow, each unit is equipped with a water regulating valve.

Because of the number of tenants (approximately 30) and the different heating and cooling zones, a central system would be at least 20% higher to operate than package units.

Among other factors listed for choosing the package unit system were elimination of zoning; flexibility; and less delivery and installation time required.

Bissett Heads Gov't Sales for Dunham-Bush

WEST HARTFORD, Conn.—Leroy M. Bissett has been named manager - government sales for Dunham-Bush air conditioning, refrigeration, and heating products.

L. M. Bissett

Bissett was formerly associated with Lehigh Mfg. Co. as vice president, sales, and was plant manager for The Capitol Machine Co.

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The only molded core made by ceramic bonding of highly efficient desiccant particles. All inert fillers are removed by ceramic fire completely activating the core. Permits maximum flow and depth filtration at minimum pressure drop. Dryness assured by Abso-Dry® pressure sealing and Brass Flare Nuts.

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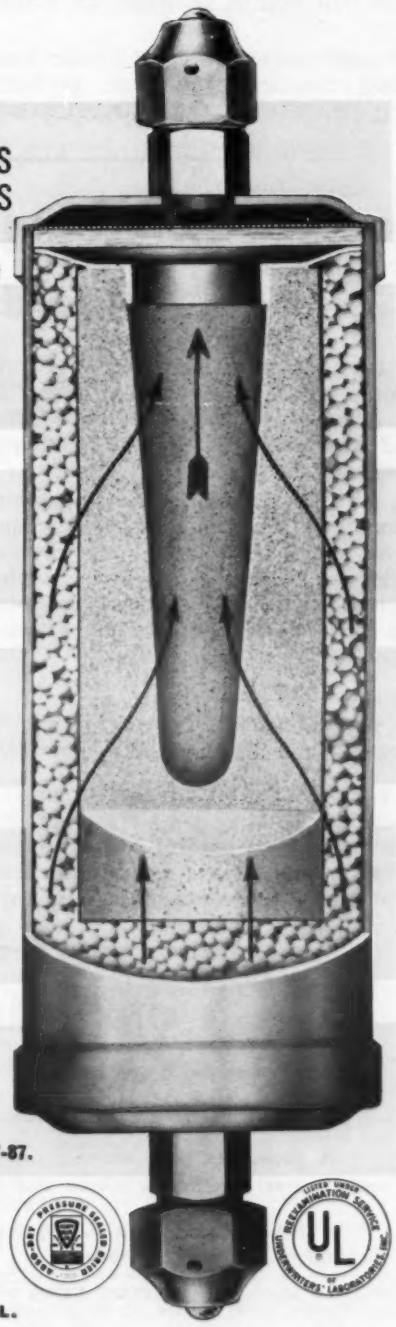

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Editorials

INTEGRATION . . . . .

The Heating-Cooling Kind

Try to think of a major residential heating manufacturer who doesn't also offer air conditioning.

Try to think of the vice versa.

There are a few left, but their number is decreasing.

Steadily over the last several years the manufacturing level of our industry has integrated two previously separate facets into a single entity — a comfort industry. By merger, by acquisition, by pirating engineers, by buying from private brand suppliers, most manufacturers have now reached the point where they offer both heating and air conditioning.

Some saw in this integration a power struggle; it was variously predicted that the cooling people or the heating people would dominate this comfort industry. Such unilateral domination has not occurred; it is not likely to occur. For one thing, a former heating company which now does half its volume in air conditioning is no longer just a heating company.

Indeed, the NEWS heard the vice president of one former heating company tell his dealers, "Get into air conditioning, if you want to stay in business, for by 1965 heating alone will not be sufficient to sustain you."

As manufacturers integrate their heating-cooling functions, however, problems are being generated at the distribution and contracting levels of the industry, problems which call for re-evaluation of habitual practices, of traditional attitudes.

Wholesalers, for example: While a few refrigeration wholesalers have taken on heating products and while more heating wholesalers have moved into air conditioning, there is still a great reluctance on the part of most of these independent businessmen to recognize that the industry is changing and that—inevitably—they must change too.

At the contracting level, heating people have been much more aggressive in moving into cooling than the reverse. So much so that some refrigeration contractors are doing heat gain calculations for heating men who are installing air conditioning.

Too, there is just beginning an awareness, among heating contractors, that warm air, wet heat, electric heat, heat pumps are all valid ways to provide comfort in a structure.

In view of the gathering momentum of these moves toward integration in the heating-cooling industry, a fence-building mentality seems a positive road to extinction.

Future issues of the NEWS will publish case histories describing how some manufacturers, dealers and wholesalers, and contractors have reacted to the problems posed by integration.

To Avoid Criticism Avoid the Specific

Next time you're with a group of friends, make some general statement like, "As children grow older, they should be given more and more adult privileges." Heads will nod, everyone will agree.

Then continue with a specific suggestion: "As an example, when a girl reaches adolescence, she should be allowed the privacy and confidence of the family doctor, rather than be made to continue with a pediatrician who reports everything to the parents."

"Now *just* a minute!"

"You're out of your head!"

"Not *my* daughter." These are some of the reactions you will receive.

Call a meeting of the heads of all production departments in your company. Explain that statistical quality control, which has worked wonders for so many other companies, promises to reduce your company's production costs when applied to your operations.

Reluctantly, a bit suspiciously, you will get agreement to that general statement.

The criticism, the cries of "It can't be done here," will come when you announce *which* department is to be the first to "go quality control."

Suggest that an association needs access to statistics to survive. Fine. Specify that companies A, B, and C might start by releasing their statistics, and watch out.

Even sin. It is all right to be against sin in general. But attack a particular sin and you'll catch it from somebody.

The lesson is rather obvious. It is safe to speak in generalities, in platitudes.

To avoid criticism, avoid the specific.

On the other hand, if you want to *accomplish* something - - -

ON WORLD PROBLEMS

What shall we do to be saved?

In Politics, establish a constitutional cooperative system of world government.

In Economics, find working compromises (varying according to the practical requirements of different places and times) between free enterprise and socialism.

In the life of the spirit, put the secular super-structure back onto religious foundations.—*Arnold Toynbee.*

ASKS MORE DATA ON BREAKDOWNS

Editor:

If your source of IBM information can make available compressor breakdown figures, rather than merely the number of service calls, we would appreciate your recasting the data in terms of compressor breakdowns, valve plate changes, motor burnouts, or compressor replacements due to any of the above causes.

If you do have compressor breakdown data, it would be interesting if you make a comparison based on R-12 vs. R-22 and also related to the temperature levels at which these fixtures operate, such as fresh food fixtures vs. frozen food fixtures.

K. I.

Back to the punched cards we go! We'll see what we can come up with.—Editor.

'MAN HAS NOT CREATED'

Roy Keir Refrigeration
Sales & Service
Modesto, Calif.

Editor:

I enjoy your editorials and comments and "Inside Dope" immensely. I also have profited much from the technical information.

I am presuming you "headed" the article in the Oct. 30 issue under the caption, "Special Emphasis on Materials," page one, upper left corner. I would like to take issue with you on the last line, third paragraph, "they have been created by man."

"Man" has not "created" one thing on this earth or in the "whole canopy of Heaven." God created.

Man has discovered the use of and perfected the use and application of every known invention—(used largely) but man has not created. Every known material, principle, accomplishment and development and idea has been here in this earth and in the universe since the beginning, just waiting to be uncovered or discovered.

Man thinks he is somebody when he develops some idea at this present stage, but look back to when steam was first "harnessed"—the gasoline engine was introduced and just imagine what is in store for us when we do land on the moon and other planets.

The Good Book tells us—something like this: "Old things are passed away and all things will become new."

Keep up the good work and keep encouraging man to look for the "unknown—as yet."

ROY KEIR

KEEPER OF THE KEYS

Donald P. Holmes
Consulting Engineer

Editor:

The Inside Dope on "Those Keys in Your Life" in the Sept. 18 issue reminded me of a lesson I learned many years ago from a very wise man.

I was just a young squirt fresh out of school, and I had achieved a very important job: I was stock clerk in a small factory. I had keys to everything: keys to the stock room; keys to the tool cabinets; keys to the file draws; keys to the drawing vault; even keys to the john in case the janitor didn't show up. I was really important — I thought.

On day The Boss came out of the Office, and asked me to get him something from the stores. Out came my massive key ring with its collection of keys, and off we went. My obvious self-importance must have impressed itself on The Boss, because before he left me, he paused long enough to say: "Son, as you go on in this world, just remember one thing: A man's importance varies inversely with the number of keys he carries."

It takes some thinking to see his point, but he was so very right."

DONALD P. HOLMES

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F. M. COCKRELL, Founder

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Philco Holders To Vote on Sale to Ford on Nov. 28

PHILADELPHIA—At a special meeting set for 10 a.m., Nov. 28, stockholders of Philco Corp. will vote on sale of the company's assets to Ford Motor Co.

The shareholders are expected to approve the proposal under which Philco would become a wholly-owned subsidiary of Ford.

For the purpose of the transaction, the closing date of Philco business has been scheduled for 10 a.m. (EST) Nov. 30.

In a notice sent to Philco stockholders, it is noted that the agreement requires that "at or promptly after the closing date, Philco will change its corporate name to one which does not include the name 'Philco.' Accordingly, it is proposed that Philco's articles of incorporation be amended to change the name to Helios Corp."

A Philco spokesman explained that the name change was just a legal technicality required to carry out the transaction and that the name Helios will be in effect for only a brief period—perhaps for only 24 hours. (Philco was founded as the Helios Electric Co. in 1892 to make carbon arc lamps.)

The notice to stockholders also points out that Philco, during the third quarter of this year, continued to experience a loss.

(Philco's financial report for the first nine months of 1961 showed a net loss of $5,778,000 on sales of $304,415,000. This compares with a net income of $2,107,000 on sales of $297,101,000 in the corresponding period of last year.)

In a letter accompanying the notice, James M. Skinner, Jr., Philco president, said the company's board of directors recommends stockholder approval of the sale.

"In the board's opinion," Skinner said, "Philco lacks the financial resources needed to operate its business to advantage. . . . On the other hand, Ford has the resources so important for the forward progress of Philco's business."

Fedders Names Marquis To District Sales Post For Central Cooling

MASPETH, N. Y.—Robert A. Marquis has been appointed a district sales manager for Fedders Corp.'s central air conditioning division, according to C. C. Kirk, division national sales manager.

Marquis has been affiliated with the air conditioning business for the past 10 years. Prior to joining Fedders, he was midwest region manager for the Johnson Furnace Co., located in Cleveland.

In his new post at Fedders, Marquis will cover a midwest area including Minnesota, Michigan, Wisconsin, northern Illinois, and western Indiana. This territory includes five Fedders midwest distributors, it was explained.

From the Files of the News

25 years ago . . .

In a special "Product Development Number" the NEWS reported on the "history-making" contributions of manufacturers over the past 10 years. The individual stories are too numerous to detail, but they covered such things as the development of the small hermetic compressor for both household and commercial applications; introduction of the "Freon" refrigerants; introduction of low-temperature refrigerated fixtures for the merchandising of frozen foods; development of unitary air conditioning equipment utilizing the newly developed low pressure refrigerants.

Also very important to the advancement of the industry were the introduction of more complete control items to permit automatic operation of air conditioning and refrigeration systems; production of smaller evaporative condensers and cooling towers, development of more automatic beverage cooling equipment; perfection of "dry" or air-cooled condensers. These and other developments were reviewed in a running year-by-year 10-year history of the industry, and stories on some of the companies and individuals who made contributions.

Everyday problems of the refrigeration serviceman, ranging from the study of controls to the proper figuring of air conditioning, truck refrigeration systems, and compressor capacities, will be the theme of talks at the RSES convention in Memphis. . . . "The Air Conditioning System as a Complete Unit" with special emphasis on the complete air conditioning system for the cooling season, was featured in the current instalment of the "Air Conditioning Made Easy" series of articles.

10 years ago . . .

A "super-clean" area at the U.S. Erie Ordnance Depot, where optical lenses for military fire control instruments are cleaned and repaired, was described. Equipment includes a 15-ton air conditioning system, 10-hp. vacuum cleaning system, Barber-Colman temperature control system, mechanical filters in combination with an electrostatic precipitator. . . . A spokesman from the office of the Quartermaster General recently described to St. Louis ASRE members military needs for standardization of components of refrigeration systems, and asked ASRE help.

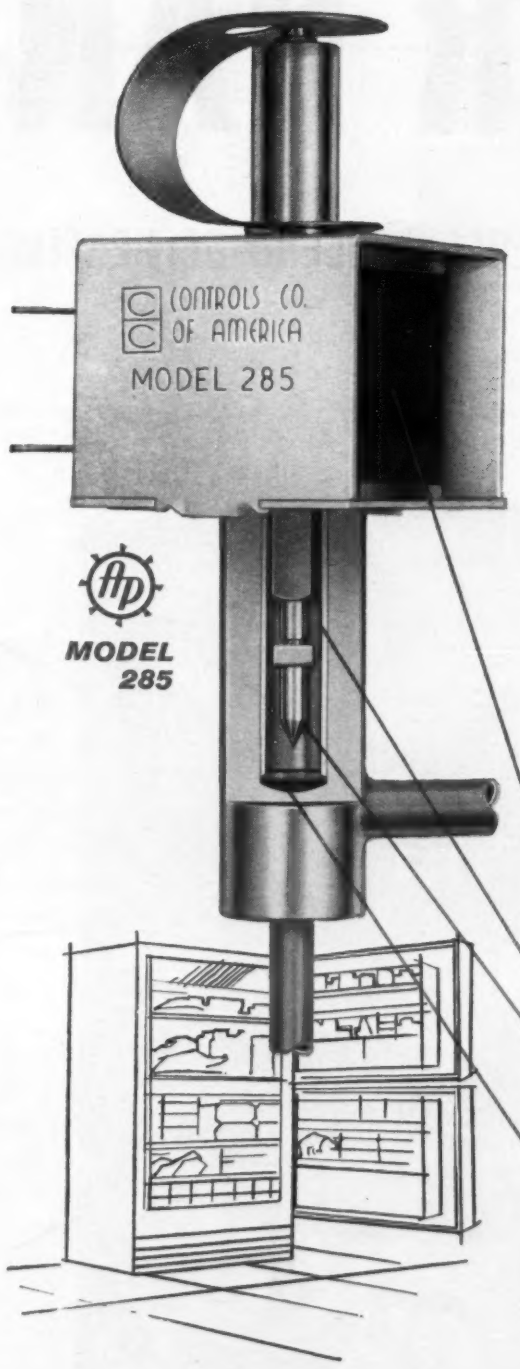
A special "Show Facts" Issue did honors to the 7th ARI All-Industry Refrigeration & Air Conditioning Exposition to open in Chicago, with more than 200 manufacturers expected to unveil their "What's New for '52" products. . . . A York automatic ice making machine is on active duty in Korea, supplying water to parched throats, and to supply ice for use as local anethesia and for prevention of shock in surgery. . . . Direct allocation of commonly used parts and components made of steel, aluminum, and copper is being considered by the NPA to ease difficulties of service firms in obtaining these parts.

Year-round air conditioning systems, individually controlled, are included in new Philadelphia apartments.

Edmund P. Heckel Dies

CHICAGO — Edmund P. Heckel, a founder and vice president of Carrier Corp., died recently in his home in suburban Park Ridge at the age of 79.

He was associated with Carrier for a quarter of a century, from its inception until he left the company in 1939 to establish his own consulting engineering firm, E. P. Heckel & Associates. He retired last year.



Open and shut case for the only valve that offers "nonstick" dependability for refrigerators utilizing hot gas defrosting

This new Model 285 hot gas defrost valve always opens and closes on schedule, making automatic defrosting of domestic refrigerators and home freezers absolutely foolproof. Everything possible has been done by Controls Company's engineers (see cutaway) to prevent "hanging-up" and the food spoilage that results from such valve defection. That's why if you're considering hot gas defrosting, your opening move is to investigate the new A-P Model 285. Write today for full facts.

Here's how A-P engineers solved a sticky problem

SOLENOID lifts needle . . . gravity plus pressure drop closes it. Solenoid coil is encapsulated with a layer of EPOXY resin — moisture resistant for long life. Coils available with open yoke (shown) or total metal enclosure.

PLUNGER TUBE is stainless steel with "mirror-smooth" internal surface finish. Highest corrosion resistance.

STAINLESS STEEL NEEDLE slides smoothly without sticking. Head of needle is radiused to give one-point contact in open position. Edges of plunger are rounded for minimum friction and long life.

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Thermoelectric Breakthroughs

New Cooling Module Said To Make Loads Up to 150 Btuh Economically Feasible

LONDON, England—The development of a "revolutionary" type of cooling module by Sanyo Electric Co., Japan, brings thermoelectric cooling into direct competition with conventional methods, according to R. W. Viney Brown, technical director, C. W. Brown (Engineers) Ltd.

Writing in the October issue of the British journal *Modern Refrigeration,* Brown said applications requiring cooling loads of up to 150 Btuh are now economically feasible and a range of equipment employing Sanyo thermo modules is now in production.

In the article headed "Breakthrough in Thermoelectric Cooling," the author stated that the performance of a thermoelectric cooling system "is entirely adequate for consumer applications, the efficiency lying midway between absorption and compression units.

"Widespread use of this novel method of cooling has been prevented by high capital cost of the semiconductor cooling batteries employed."

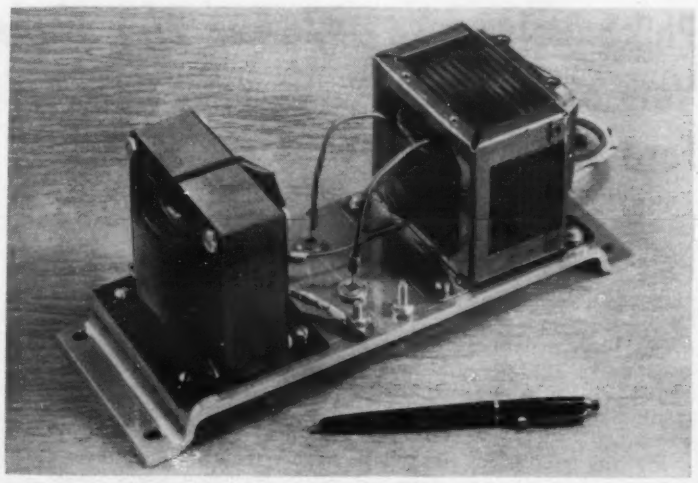
Referring to a drawing and a picture of a typical thermo module, Brown said it consists of 10 couples arranged in a battery of compact dimensions and is designed for an operating current of 16 amps.

Anodized aluminum plates are bonded to the hot and cold faces of the battery and lugs are provided for ease of attachment to any desired heat exchange system. Other 10 couple batteries are available with optimum current ratings of 12, 21, and 25 amps, respectively.

Brown said an indication of the performance of thermo modules will be obtained by consideration of several devices now being produced in Japan. A thermoelectric jar, he pointed out, is suitable for both domestic and laboratory applications. "It is particularly valuable for the storage of plasma, serum, and medical chemicals since it is highly portable and may be powered by accumulators."

The author also mentioned a thermo processing tray which, he said, provides a unique method of temperature control for photographic processing. The jar and tray were pictured along with a prototype domestic refrigerator.

Pointing out that a new type of alloy with superior properties is under investigation, Brown said "it is confidently predicted that applications with thermal loads up to 300 Btuh will be feasible by 1963. This will bring thermoelectric cooling into the major domestic appliance field."



GENERAL ELECTRIC'S new DC power supply for thermoelectric coolers is shown above. The transformer, full wave rectifier, and output filter are mounted on a base plate which acts as a heat sink for the rectifier. At maximum output, ripple content in the output voltage wave shape of the power supply is limited to 10% of the DC level, G-E engineers said. The new unit is rated 60 cycles, 117 volts input, 4 volts at 30 amperes output.

Soldering Method Reduces Cost, Ups Efficiency

TRENTON, N. J.—Dr. Robert Bernoff, director of research at Materials Electronic Products Corp. (Melcor), announced that his company has developed and put into production new soldering techniques for thermoelectric couples.

He said this will stimulate the immediate manufacture of consumer products designed around thermoelectric cooling, such as portable ice boxes for pleasure craft, and automobiles.

Dr. Bernoff explained the immense implications of this soldering development.

"It is now possible to reduce the length of the thermoelectric couples within the modules without loss of their efficiency. In so doing the heat pumping capacity is doubled and the thermoelectric material used is reduced by a factor of two."

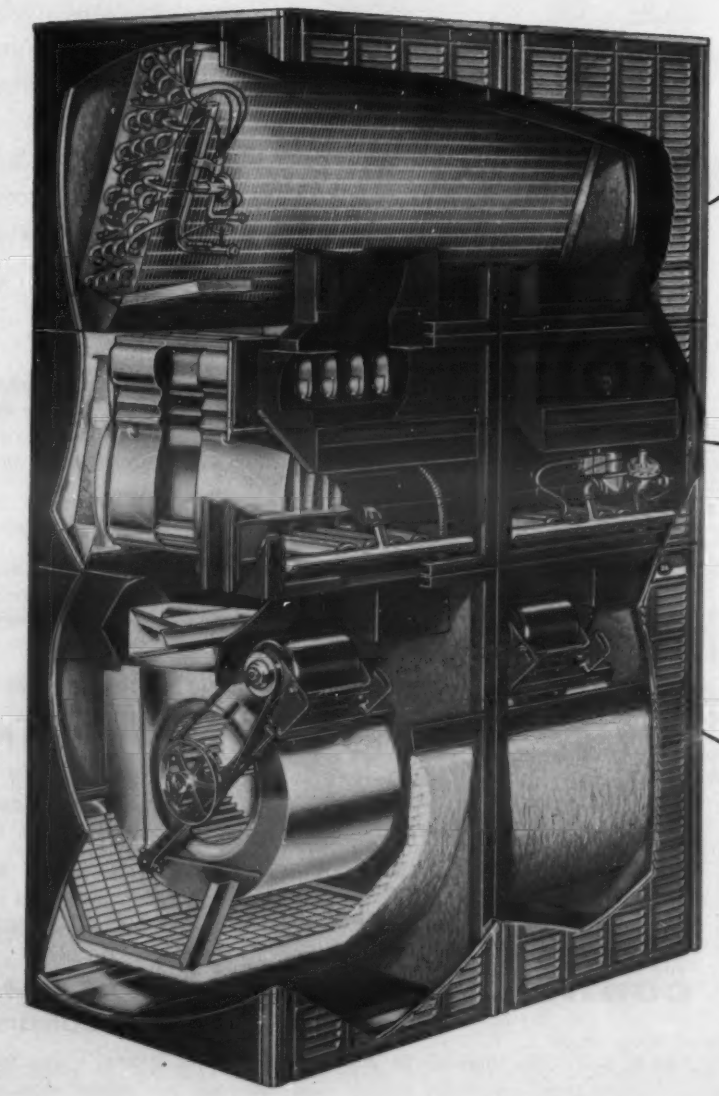
Dr. Bernoff stressed the most important aspect of this development, ". . . the cost of a thermoelectric system has been reduced by as much as a factor of two to three. Thus the practicality of thermoelectric consumer products is now an actuality."

The cost reduction, Dr. Bernoff pointed out, has made thermoelectric cooling systems up to 150 Btuh more economical than standard motor compressor systems. Melcor expects this competition with standard systems will be increased to 400 Btuh with the increase in the production quantities.

Dr. Bernoff said that Melcor believes that this competitive ability of thermoelectric cooling systems creates a market that is wide open for dynamically new consumer products.

AIR HANDLING

THE PERFECT BLEND OF HEATING AND AIR CONDITIONIN



COOLING SECTION

Extra large Lennox cooling coils are unequaled in the industry. Fins are made of extra hard aluminum, rippled at the edges for additional strength. Fins and tubes are bonded in a manner that assures tighter contact than on other coils—provides fast, efficient heat transfer. Individual units in sizes from 2 to 10 tons—may be grouped to get ANY capacity needed.

HEATING SECTION

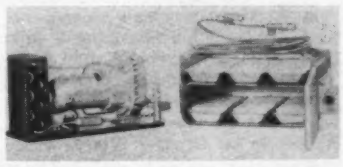
Aluminized steel—more durable than ordinary or ceramic coated steel. "Torture-tested" and built to last years longer. Choice of fuel and heating capacities to suit every job requirement. Sizes for each individual section: 68,000 to 340,000 Btuh gas input; 91,000 to 350,000 Btuh oil input. Also available in electric resistance units and heat pumps.

BLOWER/FILTER SECTION

Floating action of the HUSHTONE™ 12" blower makes it the most quiet air mover ever put in a heating and air conditioning system. Complete assembly is mounted on soft, resilient rubber to soak up sound vibrations. Special motor-drive kits make RIGHT hp and cfm selection easy! Capacities from 800 to 4400 cfm for single and double blower sections. Note bonus-size, wrap around filter for more effective and economical dust removal.

Kit Converts Ice Box Into DC Refrigerator

● A new, larger size, ⅛-hp "install-it-yourself" package for converting ice boxes up to 12 cu ft into direct current electric refrigerators for boats, trailers, or campers, has been added to the line of battery-operated "Magna Kold" refrigeration products offered by Sprague Engineering Corp., Dept. AH&RN, 19300 S. Vermont Ave., Gardena, Calif.



Featuring the Magna Kold principle of magnetic transmission of power, and available in voltages of 12, 24, or 32 (DC), the kit provides refrigeration for ice boxes to 10 or 12 cu ft and has space for six ice cube trays. The regular size 1/15-hp Magna Kold kit in 12 volts (DC) is recommended for conversion of boxes up to 6 cu ft, has space for four ice cube trays.

"Ease of installation without special tools or knowledge is covered in a simple, step-by-step instruction booklet furnished with both sizes of Magna Kold kits, which are complete with everything needed for immediate operation including pre-charging at factory with Refrigerant-12," the company said. "Dealers also offer installation service at a nominal charge.

"Both sizes can be operated indefinitely from 110 volts AC by means of a suitable power converter or a battery charger to maintain batteries. Regular size 1/15 hp, model 9115-K, sells for $249; the new ⅛ hp, model 9018-K, at $329."

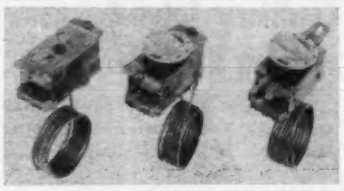
NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

New Automatic Reset Timer Series Introduced

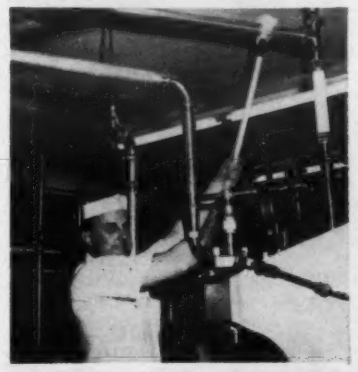
● A completely new series of automatic reset timers designed to delay an operation or to operate a circuit for a pre-set time after remote pilot action, is now available from the Paragon Electric Co., Inc., Dept. AH&RN, Two Rivers, Wis.

The 500 Series timers are particularly suited for motor control, electric equipment delay, heating and air conditioning applications, for vending machines, machine tools, in process control or other applications where time delay and automatic reset is required, it was explained. They are driven by continuous running synchronous motors which are said to assure greater timing accuracy and to simplify circuitry by eliminating a motor shut-off switch

The new timers "are provided with sharply defined dials which assure accurate settings over a broad timing range from two seconds up to five hours depending on the model used." Three types are offered. Type 500, Type 501, and 502, each of which are available with a time range of one minute, three minutes, five minutes, one hour, or five hours, adjustable within the range.



THE WRONG PICTURE was used to illustrate the story in the Oct. 16 issue on a new evaporator thermostat being offered by Danfoss, Inc., subsidiary of Danfoss of Denmark, Dept. AH&RN, 115 Dell Glen Ave., Lodi, N. J. The 51B thermostat comes in three models, as shown in the right picture above.



Brush Cleans Overhead Pipes from Floor

● A brush for cleaning overhead pipes safely from the floor without climbing ladders is being marketed by Sparta Brush Co., Dept. AH&RN, Sparta, Wis.

The head slips onto the pipe with a simple twist. The brush has a standard 36-in. handle and any length may be ordered to fit special jobs. Combined, the slip-on-head and long handle "assure safe, fast cleaning of difficult-to-reach areas such as over tanks, boilers, and stoves," the company said.

Two types of bristle are available for wet or dry cleaning. Two standard brush sizes are available. One fits 1½ to 2-in. pipes, the other fits 2½ to 3-in. pipes.

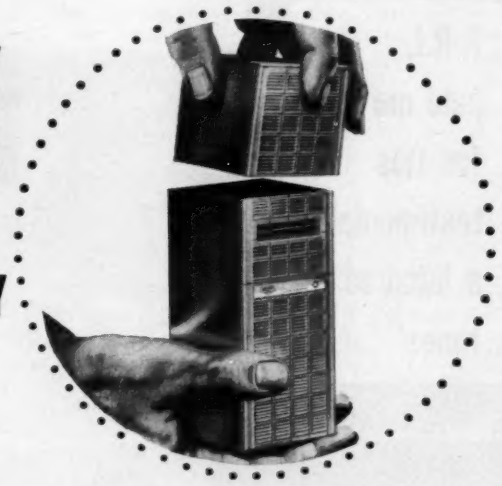
Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story.

Tell him: "AH&RN sent me!"

a la carte!

WITH "TAILORED" BLOWER CAPACITY



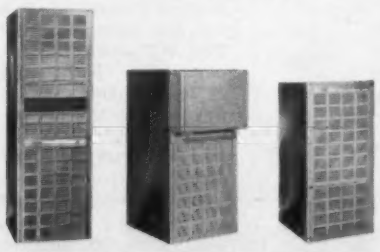
LENNOX

Landmark®

Now you can engineer a system exactly the way you know it *should* be engineered. No more compromise with wrong air volume . . . blowers that fail to measure up in performance . . . or heating/cooling combinations that don't quite "jibe."

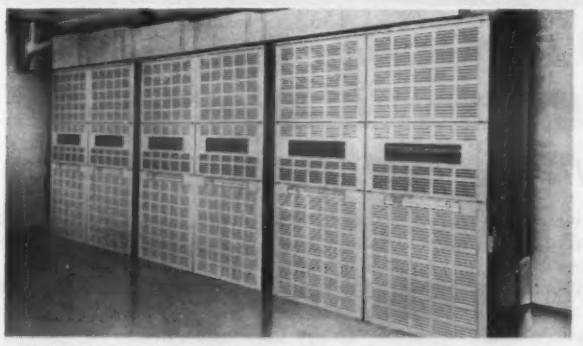
You can *choose* your heating fuel (gas, oil, electric or heat pump) and even combine the LANDMARK units with fresh air damper sections to handle ventilation (and cut cooling costs substantially). Installations may be either ducted or free standing. Easy to install in multiples for larger commercial jobs.

All this versatility is wrapped up in the most durable, handsome and quiet "dress" on the market. Husky commercial quality makes LANDMARK ideally suited for deluxe home application. Write your nearest Lennox factory or LENNOX, 415 S. 12th Street, Marshalltown, Iowa. No obligation.



AVAILABLE IN UP-FLO, DOWN-FLO AND LO-BOY MODELS.

Typical LANDMARK year-round installation in office



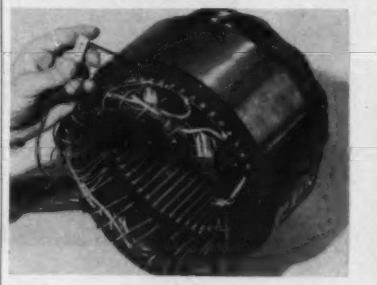
Multiple LANDMARK units combined with ventilating dampers

Don't be satisfied with less than

LENNOX®

HEATS, COOLS, TREATS AND MOVES AIR

LENNOX INDUSTRIES INC., EST. 1895—MARSHALLTOWN, IOWA; COLUMBUS, OHIO; SYRACUSE, N. Y.; DECATUR, GEORGIA; FT. WORTH, TEXAS; SALT LAKE CITY, UTAH; LOS ANGELES, CALIF. LENNOX INDUSTRIES (CANADA) LTD.—TORONTO, MONTREAL, CALGARY, VANCOUVER, WINNIPEG



Inherent Protectors Install In Stator Slots, End Windings

● An inherent protector that may be installed in the end windings or stator slots of electric motors providing built-in protection against overheating, is now available from General Electric Co., Dept. AH&RN, Schenectady, 5, N. Y.

The CR124H inherent protector may be applied safely in integral horsepower motors through 200 hp, 600-volt maximum, according to engineers at the company General Purpose Control Dept. Even larger motors may be protected with these devices with special design consideration, it was stated. The new units may also be utilized as bearing temperature protectors in pump and motor applications.

Normally, on motor applications, three units are used, one in each phase of a three-phase motor, the engineers said. Additional units are recommended for part-winding motors.

'Piggyback' Conditioner Is for Apts., Small Homes

NEW 22,000 BTUH Rheem Corsaire Piggyback Air Conditioner installed adjacent to an outside wall.

● Said to cut installation costs substantially, a new "Corsaire Piggyback" PB-22 air conditioner recommended for appartments and small homes with utility rooms is being offered by Rheem Mfg. Co., Dept. AH&RN, 7600 S. Kedzie Ave., Chicago 52, Ill.

The Piggyback is designed for attachment to Rheem gas furnaces when installed adjacent to an outside wall. With the evaporator section fitting directly over the warm air take-off to the furnace, the four models to fit all installation requirements, the firm said.

Models PB 22-1 and PB 22-2 are designed for outside wall mounting with only the intake and discharge condenser air feeding through the wall.

All Piggyback ratings are certified to comply with ARI Standard 210, according to Rheem.

Want More Details?

ADDITIONAL details on products that are described on these pages may be obtained by writing the manufacturer at the address given in each What's New story.

Capillary Tube Gauge Sizing Kit Offered

● A new capillary tube gauge sizing kit has been announced by Madden Brass Products Co., Dept. AH&RN, Aurora, Ill.

With this kit, the company indicated, it is easy to quickly gauge the inside diameter of several of the most widely used capillary tube sizes (.031, .036, .050, .055, .064, .070).

Packed in a plastic pouch, each gauge is permanently identified for size.

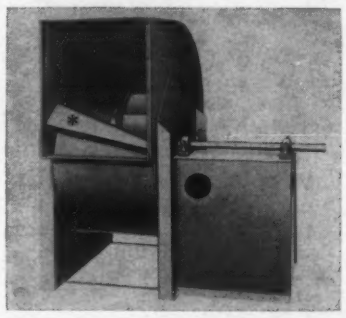
12-Blade Airfoil Fans Claim 91% Total Efficiency

● A completely new line of 12-blade airfoil fans featuring a new blade design, improved inlet cone and wheel rim design, plus a new type of air cutoff(*) has been developed by The Trane Co., Dept. AH&RN, La Crosse, Wis.

New features have resulted in a maximum of 91% total efficiency rating for the new line, according to Trane.

The new Trane airfoil blade has a very slight camber and a blade thickness that is 12% of the blade's chord. This relatively thick blade contributes to higher fan efficiency, Trane says. Twelve blades were used in each wheel because this number proved most quiet and efficient in extensive laboratory tests, according to the manufacturer. It was also found that the sound generated by the 12-blade wheel was of a frequency that could be more easily attenuated.

The inlet cone and wheel rim were designed to work together.

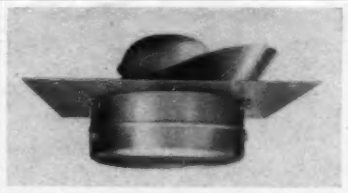


The contour of the inlet cone permits air entry with a minimum of shock and turbulence, Trane says. Power-wasting eddies are eliminated. The wheel rim contour is made to match that of the inlet cone in order to reduce turbulence in the entering air as it leaves the cone and to assure uniform air flow through the wheel.

The air cutoff was designed to create a more uniform flow of discharge air and reduce recirculation of air between the housing sides and the fan wheel.

In operation, the sloping rolled cutoff peels the air off the fan blade edges. It progressively intercepts the air along each point of the blade edge. Air from the inlet end of each blade contacts the highest point of the sloping cutoff. As the last of each blade passes the lowest point of the cutoff, air from the inlet edge of the next blade is already contacting the high point of the cutoff. The result is a more even velocity distribution across the fan discharge, Trane says.

Class I and II fans are available in wheel diameters of 24 in. to 89 in. Class III fan wheels range from 24 in. to 73 in. All Trane airfoil fans carry the AMCA certified rating seal.



Humidifiers Designed For Mass Market

● The WF-J, a new residential humidifiers "specifically designed for the mass market among thousands of small warm air heated homes," has been announced by Walton Laboratories, Inc., Dept. AH&RN (PH-30), 1186 Grove St., Irvington 11, N. J.

"Sized to the requirements of 78% of the residential warm air installations believed to be presently in service, the WF-J may be used effectively with furnaces up to 100,000 Btu," the company stated.

Introduced as the price leader in Walton's residential line at the company's national sales meeting, the WF-J carries a suggested installed price of $94.75. Orders for the new WF-J, written at the conclusion of the sales meeting, were the largest in Walton's history.

Operating on Walton's patented, "Cold Steam" principle, the unit provides positive evaporation of up to 6 gals. per day, claimed by Walton engineers to be adequate for the average small dwelling. The WF-J has only one moving part. Its patented centrifugal atomizer completely eliminates dry air in the home by forcing millions of moisture molecules into the ductwork where the airstream carries them through the house, the company said.

The WF-J incorporates all the quality design features currently available in the higher priced Walton models, it was stated.

Mr. Louis E. Bake, *Air-Conditioning Dealer,* says:*

"Selling with the A.R.I. Directory is easier, faster, more profitable."

How profitable? Ask Louis Bake, who uses the ARI Directory regularly, finds it a big help in closing sales, and a major factor in his company's 50% sales increase in 1960.

"When I show customers that the unitary system I'm recommending is listed in the ARI Directory, and *certified* under the program of this national association, I add authority to my presentation.

"I point out how the equipment is carefully rated under the Certification Standards, that this rating is subject to checking at any time by the Institute through an independent testing laboratory in New York. Result: I back my sales talk with the authority of the Air-Conditioning & Refrigeration Institute, give my prospects more confidence in what I say.

"I thought selling with the ARI Directory couldn't be beat—until I saw the new ARI Consumer sales piece, 'How to Buy Central Air Conditioning.' This is a *must* for any dealer who wants to tell his prospects the *how* and *why* of central air conditioning. It tells the full, technical story in words John Q. Public can understand, and helps any honest dealer sell a quality system."

Free copies of both the A.R.I. Directory and "How to Buy Central Air Conditioning" are available from:

AIR-CONDITIONING & REFRIGERATION INSTITUTE

Department A-1111, 1346 Connecticut Avenue, N.W., Washington 6, D. C.

*Mr. LOUIS E. BAKE is Sales Manager of Cool-Heat Sales Company, Inc. of Washington, D. C.

In Los Angeles

Medallion Home Gets Heat Pump, Negative Ions

LOS ANGELES — A 5-ton heat pump mounted on the roof and negative ionization of the air in each room are features of the total electric Gold Medallion New Products House on display at the Los Angeles Dept. of Water & Power Crenshaw Electric Living Center.

It is the same home, built for *Popular Mechanics* magazine by Construction Management, Inc., Burbank, that reportedly attracted a quarter of a million visitors at the 1961 Home Show.

Contributing to comfort, it was pointed out, are insulation and plastic drapes that reflect up to 86% of the heat.

HEATING-COOLING STATISTICS—RESIDENTIAL—1960

The data in this table are taken from 1960 census reports now being issued by the Bureau of the Census. As future reports are released, they will be published. Figures represent number of homes using this equipment.

Heating Equipment	Alaska	Delaware	Idaho	Maine	Montana	Nevada	New Hamp.	New Mexico	South Dakota	Utah	Vermont
Steam or hot water	23,261	43,764	12,714	95,804	24,747	6,022	85,987	5,849	17,174	24,517	34,008
Warm air furnace	12,000	55,109	91,656	105,147	86,355	25,082	60,111	58,433	90,563	157,074	41,974
Floor, wall, or pipeless furnace	3,409	10,407	13,715	12,796	30,080	17,223	9,810	87,112	17,779	23,511	6,376
Built-in electric units	92	520	5,393	683	2,790	13,711	213	956	1,017	632	240
Other means with flue	26,812	30,073	94,991	139,825	84,075	27,854	62,341	85,104	82,085	53,173	49,545
Other means without flue	1,080	1,925	3,639	4,194	3,451	10,507	2,218	39,429	3,489	2,817	2,030
None	539	1,905	1,425	6,162	1,779	1,149	3,724	5,011	4,342	899	2,134
Air Conditioning											
1 room unit	290	14,419	6,890	1,797	5,146	3,379	4,163	10,079	10,024	11,969	1,307
2 or more room units	105	5,241	2,437	825	1,001	1,396	1,133	3,378	2,079	2,403	527
Central system	240	2,063	5,561	1,269	3,646	10,226	1,034	10,414	2,750	5,618	797
None	56,615	106,859	178,951	276,464	192,447	76,519	173,690	227,316	179,968	221,542	108,101

Jet-Heet System Going Into Tract Homes

WILMINGTON, Del.—Jet-Heet, Inc. equipment will be used for the first time as an integrated system in a new home development to combine heating, cooling, domestic hot water, and thermostatic temperature controls on a room-to-room basis, it has been announced.

The development is a $25,000,000 planned community which opened recently in suburban Brandywine Hundred. From 800 to 1,000 single-family dwellings will be built by Magness Construction Co. over a four-year period, according to the announcement. Prices will range from $28,000 to $32,000.

HEATED BATHTUBS

Heated bathtubs are another feature.

The Jet-Heet equipment will be serviced and its performance will be backed by the Esso Standard Region of Humble Oil & Refining Co., chief domestic affiliate of standard Oil Co. (N.J.), the announcement said.

The Magness community marks Esso's first entry on a large scale into the home-building field, it was stated.

"Our engineering studies in cooperation with Jet-Heet, Inc., Englewood, N. J., manufacturer of the heating and cooling equipment, and Esso show that homeowners will be able to heat and cool for the price of heating alone with a conventional heating system," said A. Gray Magness, president of Magness Construction.

The announcement explained that the equipment features high-velocity air, which travels through special flexible ducting of only 2 in. inside diameter, "delivering super-heated air to thermostatic registers within one second. There, the hot air is blended with room air through the special registers delivering the exact heat designated by the homeowner for each room. By use of a special crossover duct, the same flexible ducting and the same registers deliver cooled air during summer months."

"The system controls the major factors of home comfort —temperature, humidity, circulation, and filtration," according to Magness. "A plentiful supply of hot water is delivered at low cost."

FORCED DRAFT USED

Jet-Heet uses a forced draft, rather than a natural draft, in its equipment and says this adds to the economy and efficiency of the system.

The ranch and two-story models in this new community will include two-car garages, and all the homes will have family rooms.

Sequoia Names G. W. Cheney

SAN CARLOS, Calif.—G. W. (Gib) Cheney has been appointed director of sales for Sequoia Mfg. Co., producer and marketer of gas-fired units for heating and air conditioning.

G. W. Cheney

Cheney will be in charge of Sequoia's recently-announced program of aggressive national expansion, stated Glenn A. Barnes, the company's executive vice president and general manager.

Also joining the sales staff is George Patacchia, who has previously worked with Cheney.

Cheney emphasized that the Sequoia marketing program will be confined to distribution exclusively through wholesalers.

The expanded line of products, all under the Sequoia brand, will include horizontal central heating units, the "Spacenter" line of upflow and counterflow furnaces with Sequoia's patented insert burner, "Fre-Flo" gravity space heaters, and refrigerated air conditioning units. A new line of evaporative coolers will be added for 1962.

W.W. GRAINGER, INC.

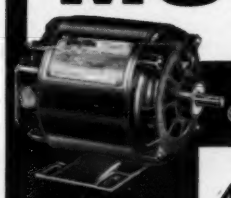
SPECIALISTS IN ELECTRIC

MOTORS

1/100 to 60 HP

TOP NAME BRANDS

Dayton · Wagner



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AIR COMPRESSORS
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OMAHA 10 • 1531 N. 18th St.
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CHARLOTTE 3 • 1216 S. Mint St.
OHIO
CINCINNATI 6 • 2400 May St.
CLEVELAND 14 • 2150 Hamilton Ave.
COLUMBUS 15 • 400 E. Livingston Ave.
DAYTON 2 • 222 Washington St.
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EL PASO • 1100 E. Missouri St.
FT. WORTH 3 • 1119 W. 5th St.
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SALT LAKE CITY 16 • 527 No. 3rd W.
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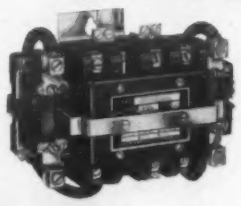
W.W. GRAINGER, INC.

Dept. 202E, GENERAL OFFICES, CHICAGO 12

NOW Ambient Compensated Overload Relays for 30, 40, 50 and 60 Ampere Definite Purpose Starters



Reliable and Accurate Protection Regardless of Heat or Cold

Here, for the first time, is a compact overload relay that compensates for both heat and cold, operating on the same time curve at all temperatures from —20°F to 165°F. Compensation is automatic. No field adjustment is needed. Operating mechanism is simple, rugged and dependable.

These starters, made specifically for Commercial Air Conditioning and Refrigeration Applications, feature: small size, straight-thru wiring, slotted mounting holes, extra heavy contacts and additional terminals.

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A Consultant Looks At . . .

Joe Olivieri has earned an enviable reputation for his engineering knowledge. He is also well known for his willingness to praise or criticize, as the occasion demands. Operating from his unquestioned background of knowledge, Olivieri offers opinions on many facets of the heating-cooling industry in these articles prepared exclusively for the NEWS.

ELECTRIC HEATING (2)

By Joe Olivieri, J. B. Olivieri & Associates, Detroit

(Last week, Olivieri cited two case histories to illustrate how to decide whether or not to use electric heating. He continues with two more.)

Case History No. 3

Assume that the store building in Case History No. 2 (a 10,000-sq ft air conditioned specialty shop exposed on four sides with 50% of the perimeter glass) will be heated with gas or an air-to-air heat pump.

Gas costs are assumed to be 90 cents per 100 cu ft and electric costs 2 cents per kwh.

Now using electricity for heating is economically practical. The owning and operating costs are close enough that one would not be able to choose on the basis of economics only.

Incidentally, if a water source could be used the cost of fuel for the normal building would be $800, which certainly is competitive with gas.

Case History No. 4

A 14-story all glass apartment building. The building is long and narrow so that all rooms are on an outside wall. The glass is Thermopane for either a gas or electrically heated building.

Two systems were considered, one gas and one electric. The gas system was a hot and chilled water system using gas boilers, absorption refrigeration, and fan-coil units. The electric system consisted of panel heating and modified window air conditioning units.

Gas cost was assumed to be 90¢ per 1,000 cu ft and electrical costs for both systems to be 1.5¢ per kwh.

In this case the electric system is definitely the choice. The costs for labor assumed that the license law could be circumvented. If they cannot, an additional $14,000 per year must be added to the gas system.

An interesting footnote to this analysis was the owner's reaction. This owner over a 20-year period has built many small apartments using residential boilers and window units. When I began to talk about 300-hp water chillers, 3,000,000 Btu boilers, etc. he turned pale.

When we decided, on the basis of the owning and operating costs, to go to the electric system, he was a most happy man. He has a system that he was familiar with and that his people could maintain.

In every discussion of gas versus electricity, the gas supporters point to the fuel costs, in this case $6,250 for gas against $20,100 for electricity. But if you add to the fuel the cost of transporting the heat to the occupants, in this case $5,400 (the auxiliary power cost for winter), you have $11,650 against $20,100. The cost of delivering heat is now less than 2 to 1.

So far we have looked only at economics. I think you will now see that it is easy to cut through all the sales pitches and arrive at a dollar and cents answer as to whether or not you should heat electrically.

But what about architectural design? All through our economic analyses we have changed the structure as we pleased. Can we do this?

Sometimes yes. But quite often the expression the architect is seeking is more important than economic considerations. If the architect can change his design, fine. If he can't, don't use electric heat.

Remember, electric heat is only another tool for us to use, not the tail that wags the dog.

Let's examine for a moment the advantages that are always cited by sellers of electric heat:

1. Electric heat is cleaner. This is as ridiculous as saying that gas is cleaner than oil. The fuel is delivered in closed containers (we have no coal bins with gas or oil). Combustion takes place in a sealed container and is vented outdoors through the chimney. If the dirt of combustion were able to get into the building the occupants would be in danger of asphyxiation.

Some say that the air needed for combustion brings in dirt. The air required for combustion is less than normal infiltration. As we all know even infiltration

Case History Number 3

	Normal Bldg. Gas	Normal Bldg. Heat Pump	Insulated Bldg. Gas	Insulated Bldg. Heat Pump
First cost of building	$140,000	$140,000	$153,000	$153,000
Owning cost of building	11,200	11,200	12,200	12,200
Fuel	680	1,060	310	500
Electricity for auxiliaries and lights	4,408	4,400	4,408	4,400
Maintenance	400	100	400	100
Total owning and operating costs	$ 16,688	$ 16,760	$ 17,318	$ 17,200

Case History Number 4

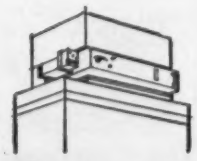
	Gas System	Electric System
First cost of mechanical	$300,000	$150,000
Owning costs of mechanical	24,000	12,000
Fuel	6,250	20,100
Power for cooling	3,318	3,260
Power for auxiliaries	8,300	....
Domestic water heating	1,700	5,880
Labor	7,000	2,000
Total operating and owning costs	$ 50,568	$ 43,240

The first ELECTRONIC

Living Area Control Center provides a constant performance check. Indicates when collectors need washing. Permits remote operation of fan.

Filter Flag® indicates at furnace or air conditioner and at the Living Area Control Center when the protective screen needs cleaning.

Simple Washing Kit includes everything the homeowner needs to wash the air cleaner collectors (normally once every three months).



One-Side Access feature makes it possible to install the unit in any location. Clearance is required only for removal of the door assembly.

is hardly enough for a healthy environment.

The biggest problem in electrically heated residences is that the buildings are so tightly sealed that excessive humidity becomes a problem.

2. Electric heat is safer. This may be true, but I am a coward from a long line of cowards. I even wear rubber gloves to change a light bulb. I also check all joints on my gas line with soap suds weekly.

Seriously, electric heating is probably safer, but other systems are not very dangerous.

3. Electric heat is maintenance free. This is probably the most important advantage to electric heating. Modern mechanical systems are becoming increasingly complex, requiring a high caliber serviceman. This service quite often is too complex for the owner's custodial help to handle.

If you are located in a metropolitan area a failure is a nuisance but no great problem because a serviceman will arrive before the building is too cold.

But what about the school board up north 100 or 200 miles from the nearest serviceman? A breakdown is a problem for him.

All in all, I think that this is the most important advantage of electric heating and one that would cause me to select an electric heating system if the owning and operating costs of electric heating were within 5 to 10% of other fuels.

4. Electricity will cost less than fossil fuels in "X" years. For this one you would have to be omniscient. How can anyone tell what will happen.

I am sure that the fossil boys will not price themselves out of business. Presently it looks as if electricity will be cheaper in the future. If you like to gamble, use this as a reason for selecting electricity as a fuel.

I have only one criticism to make of electric heating. It is being marketed by people who do not know heating. Some who call on me make some ridiculous statements.

For example, one man said, "Keep the building at 35°F during unoccupied periods and turn it up several hours before occupancy."

To start with, letting a building cool from 70° to 35° and then heating it up again to 70° is a good way to assure yourself plenty of cracks.

But equally important is the fact that at 0° it takes 10 hours to **completely** heat a building (air, walls, ceilings, floors, and furniture) to 70° even if the system is twice as large as necessary.

Remember that electric heating is just another tool for us to use in building. Lets not fight it, lets use it.

FUNCTIONAL styling of the gas wall heaters blends with the apartment furnishings. Finished in a walnut colored baked-enamel finish with aluminum colored screen grille and polished metal trim.

* * *

VENTS for the safety-sealer heaters can be seen in this view of the Housing Authority's apartments. The small circular caps under the window provide exhaust for the sealed combustion chambers and also supply air for combustion. Room air has no contact with combustion fumes.

* * *

Miami Housing Authority Installs Gas Wall Heaters

Sealed Vent Units Need No Chimney, Ductwork

MIAMI, Fla.—The Housing Authority of the City of Miami has installed 585 Perfection safety-sealed gas wall heaters in public housing units as part of a program to provide better heating for residents.

Made by Perfection Div., Hupp Corp., at its Waynesboro, Ga. plant, the sealed vent heaters need no chimney or ductwork for heat distribution.

The completely enclosed combustion chamber is vented directly through an outside wall. It breathes in fresh air from the outside and exhausts combustion gases back without any chance of mixing with room air in the apartment.

The wall heaters require only a connection to the gas supply, hook up of the automatic thermostat control, and an opening in the outside wall for the adjustable vent.

Actually two air ducts, one within the other, the single vent telescopes to adapt to different wall thicknesses. The larger, outside duct supplies combustion aid to the burner and the inner duct carries the flue products outside. A weather protecting cap on the vent prevents mixing of the entering and exiting air streams and infiltration of rain.

In the Miami housing units, only a 35,000 Btuh input unit was needed to meet the heat loss requirements for the area's 35°F winter design temperature. The units are located in the living rooms of the apartments directly under the window to offset cold air flow from the window and supply heat along the perimeter where losses are greatest.

Housing authorities found the floor-mounted units could be installed in a matter of minutes and are economical to operate.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

AIR CLEANER designed exclusively for the home!

Here's the profit package that introduces an entirely new concept in elegant living—the Self Cleaning Home! With this exclusive new air cleaner you sell *many* ideas . . . less housework, fewer cleaning and decorating bills and effective removal of airborne allergy irritants. And, you offer builders a dramatic new sales feature . . . guaranteed to stimulate interest in their homes. Either way, the Honeywell Air Cleaner can help you beat the cost-price squeeze—and it's good for your add-on business, too!

The complete unit comes to you as a package and can be installed simply. You keep full profits because the homeowner performs the simple maintenance himself. The initial low cost of the Honeywell Air Cleaner is also an important selling point. And because it requires no plumbing and fits easily into any forced air system, it can be installed for up to $100 less than other units.

Available in two sizes (20 x 25 and 16 x 25 in.), the Honeywell Air Cleaner is only 7 inches thick when installed in the return air duct. Handles up to 2200 CFM (about 5½ tons of cooling—220,000 BTU output, heating).

Tests by the National Bureau of Standards' Dust-Spot Methods prove that the Honeywell Electronic Air Cleaner traps from 70 to 95% of all airborne particles, depending on rate of air flow. By comparison, standard mechanical filters have an efficiency range of from 5 to 8%; and charged media filters average less than 50% efficiency.

For complete details on Residential Electronic Air Cleaning and for a free merchandising kit, call your nearby Honeywell office. There are 112 throughout the country. Or, write Honeywell, Dept. AN-9-142, Minneapolis 8, Minnesota. In Canada, write Honeywell Controls, Ltd., Toronto 17, Ontario. *Sales and Service offices in all principal cities of the world.*

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TECH CENTER

by
FRANK J. VERSAGI

TESTING LABORATORIES:
U. S. Testing Co.

This is one of a series of articles discussing testing laboratories of several types. Due to increased activity with certification programs, complaints about delays in safety and performance testing, and repeated suggestions that the heating-cooling industry should set up its own independent testing laboratory, NEWS readers have requested an analysis of the role that existing laboratories are playing in the heating-cooling industry.

Mention United States Testing Co., Inc., to most people and they will immediately recognize the testing laboratory whose seal appears frequently on television certifying the quality of such things as Parliament cigarettes.

This long-time association with consumer products has proved both a boon and a bane to U. S. Testing, according to H. M. Block, vice president.

"Unfortunately, many otherwise knowledgeable people in industry feel that the very fact that we are strong in consumer image means we are somehow not quite qualified to do reliability testing, quality testing, certification work," said Block during a three-hour interview with the NEWS.

Indeed, in preparing the discussion of certification programs which appeared in the July 10 issue of the NEWS, the NEWS learned that United States Testing Co. and Electrical Testing Laboratories were originally considered as possible testing agencies for the NEMA certification program. Two factors were important in the decision to go to ETL: first, ETL already had existing testing facilities for air conditioners; second, several spokesmen admitted that they were "uneasy" about U. S. Testing's consumer image.

U. S. Testing's Hoboken Facilities

A tour of U. S. Testing's Hoboken facilities, however, clearly manifests the company's heavy investment in testing equipment for use by manufacturers, architects, consulting engineers, and contractors. Like many other independent testing laboratories, U. S. Testing supplies and performs such functions as the testing of basic materials, on-the-site inspections, sampling, control of material preparation.

Specifically for the air conditioning and refrigeration industry, the company maintains a laboratory which it holds is equipped to run final performance and rating tests on condensing units and compressors, complete air conditioners, automotive refrigeration, components such as driers and desiccants and expansion valves, in addition to tests on thermal and acoustic insulation.

Tested Compressors for Quartermaster General

For the office of the Quartermaster General, Dept. of Army, U. S. Testing conducted a year-and-a-half testing program on hermetic refrigeration compressors. The compressor testing program was divided into seven size ranges, beginning at ¼-ton and going through 15-ton. The Quartermaster General was interested in brand-by-brand evaluation relative to cooling capacity, noise level, life expectancy. Part of the test procedure consisted in breaking down the compressors after so many hours and measuring component parts with micrometers to check for wear.

After a specified number of hours, the units were checked for economy, Btu per watt.

Specifically, the Quartermaster General testing program included:

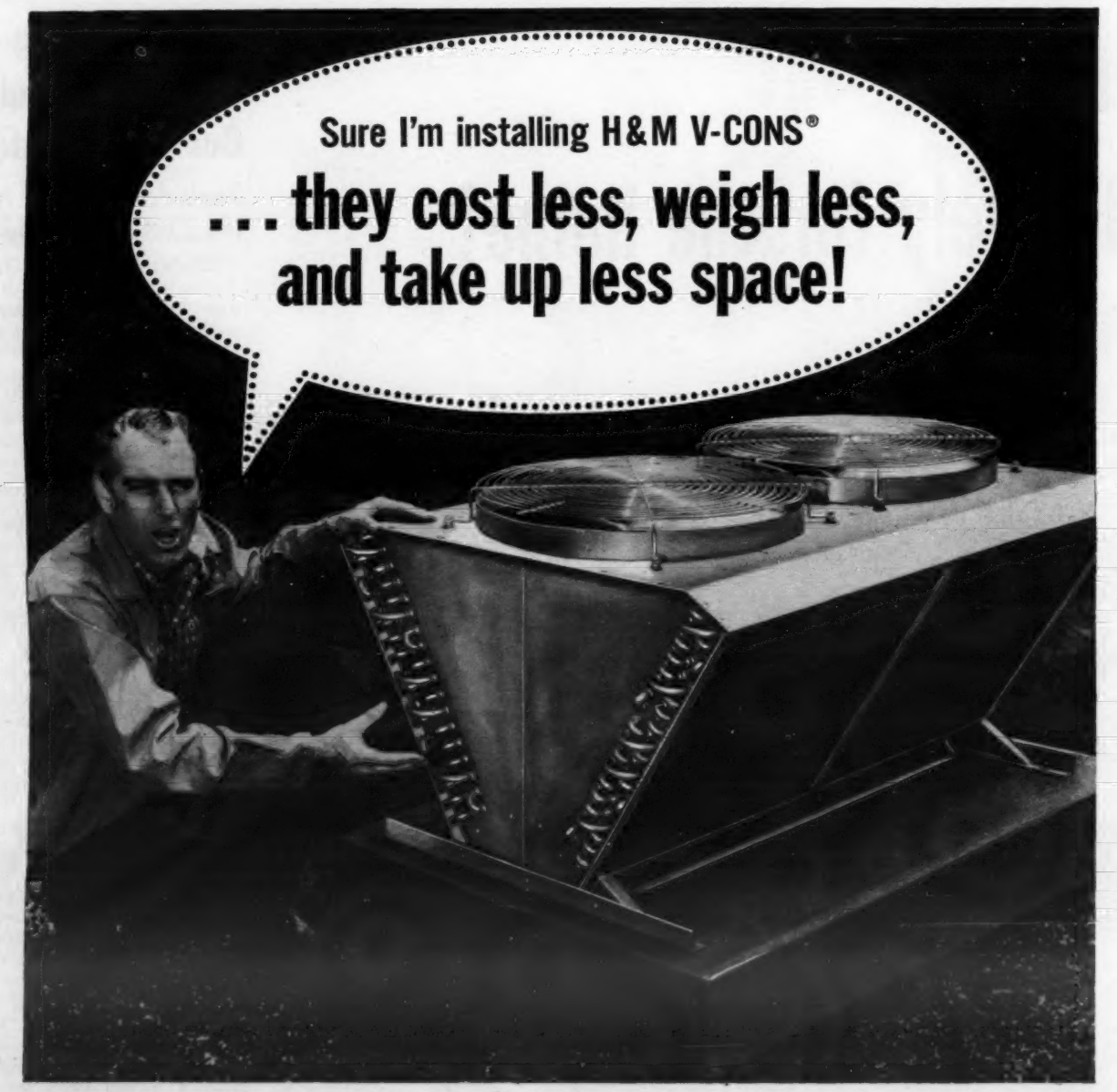
1. Initial inspection — a photographic identification of samples submitted as part of the records of over-all dimensions, weights, service valve dimensions, connection sizes, motor characteristics, and motor controls and protective devices.

2. Storage test—among other things, the compressor assembly is stored with its oil and gas holding charge for 48 hours at -80°F and for 48 hours at 160°. An interesting finding by U. S. Testing: "The presence of a Refrigerant-12 holding charge in a compressor insures only that moisture injury is prevented at ambient temperatures above -22°. At temperatures below this, the crankcase pressure is lower than atmospheric pressure, and moisture entry becomes a possibility.

"A holding charge of dry nitrogen at 20 psig, however, would maintain the crankcase above atmospheric at all anticipated storage temperatures.

Sure I'm installing H&M V-CONS®

... they cost less, weigh less, and take up less space!



No wonder these Halstead & Mitchell V-Cons® are the hottest selling air-cooled condensers around. First off, they give full performance yet cost up to 15% less than comparable capacity condensers.

Second, they weigh about half as much because they are housed in light-weight, corrosion-resistant aluminum. The fan blades are aluminum, too. Thus, roof loading is much lower and rigging far easier.

Next, they combine the low height and quiet operation of vertical discharge condensers with the minimal space requirements of horizontal discharge units.

Currently available in 3, 5, 7½, and 10 ton sizes, these new units round out Halstead & Mitchell's line of vertical and horizontal discharge condensers of 3 to 100 ton capacity. All models feature H&M's exclusive Turbu-Flo fins, which improve heat transfer between refrigerant and air.

For more information, contact your wholesaler, or write for Bulletin VC-103. Halstead & Mitchell Co., Dept. H113 Bessemer Bldg., Pittsburgh 22, Pa.

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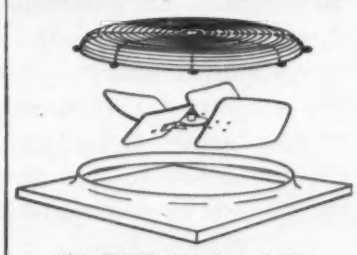

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HOUSTON 4, TEXAS

A trace of Refrigerant-12 could be added to the nitrogen for purposes of leak detection."

3. Capacity tests — this test is designed to verify the output of compressors over the wide range of operating conditions required for military service. Data recorded during such tests are Btu per hour, voltage, amperes, watt input, power factor.

4. Life tests — the life test is intended to prove that hermetic compressors will operate for an extended period of time at extreme operating conditions without failure.

5. Adverse starting — this test is designed to show whether the compressor motor has adequate torque at low starting voltage to start the compressor under varying conditions of load.

6. Capacity confirming test— the capacity confirming test is intended to compare capacities of compressors sampled from production with the standard capacities and tolerances obtained by the primary method of the qualification tests. "A calibration test is also prescribed where each compressor is required to pump up a 145-lb refrigerant cylinder with air to a pressure of 170 psi. At this pressure, time and watts input are recorded. The average data obtained from these tests is intended for use as a standard for production testing."

Import of Diversity

I. J. Fuchs, manager of instruments and apparatus division, stressed the over-all importance of diversity in a testing laboratory. "An independent testing laboratory, such as ours, with $2,500,000 worth of testing equipment, cannot help but build up a wealth of knowledge and techniques, many of which can be transposed from their original function to testing programs in related fields."

Without exception, all interviewees from independent testing laboratories visited by the NEWS made this or a related point: that none but a very few individual manufacturers can economically justify full testing facilities. A calorimeter of sorts, some life testing trials, perhaps a go-or-no-go program. But full time, long-range, comprehensive testing requires full time, long-range, comprehensive effort — both in facilities and personnel.

Next in this series:
UNDERWRITERS' LABORATORIES

At Mueller Brass

Michigan RSES Hears How To Solder Aluminum to Copper

PORT HURON, Mich. — The Michigan State Assn. of Refrigeration Service Engineers Society held its annual service clinic here as guests of Mueller Brass Co.

Vin Bower, manager of the wholesaler division, greeted the 55 servicemen and assigned them to guides who took several groups through production facilities of the Mueller Brass Co.

After lunch, W. W. West, manager of sales promotion, described the company's group of products, including line valves, driers, and moisture indicators. West also demonstrated the soldering of aluminum to copper. In answer to questions from the servicemen, West made these several points:

"Clean flux is a *must.* Don't stir the flux with aluminum; wipe the brush off on a cloth each time you have brushed it over aluminum before immersing it into the flux again; don't keep the bottle longer than about two weeks, because the components tend to vaporize.

"Always apply the heat to the copper, whether it is the tube or the fitting.

"In attempting to repair a pinhole in an aluminum evaporator, use a fairly thick and stiff patch. Carefully clean the surface of the evaporator and the patch; play the heat on the patch and allow it to work through to the solder between the patch and the evaporator.

"Always protect a copper-aluminum joint with lacquer, some plastic coating, or waterproof tape. Before applying such a protective coating, be sure thoroughly to wash off the soldered joint."

West recommended the use of propane rather than acetylene for connecting copper to aluminum soldering because "the propane heats a bit slower and allows more careful control."

York Names Roberts To Head New Dept.

YORK, Pa.—The formation of an entirely new Divisional Product Dept., headed by W. H. Roberts, general product manager, was revealed here by J. B. Elliott, president of the York Div. Borg-Warner Corp.

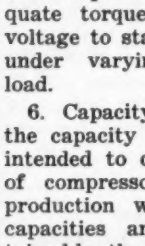
W. H. Roberts

Elliott stated that "this is another advance toward York's goal of providing the very best air conditioning and refrigeration equipment at fair prices, properly designed and applied to the varied needs of our customers."

Further emphasizing the importance of this new operation, Elliott remarked: "Roberts and his group will be a vital link in our chain of new product planning, design, engineering, and manufacturing, maintaining the essential close relationship with marketing and applications."

Reporting to Roberts will be three York engineers with broad experiences in product development. Ledyard Avery will head-up central air conditioning; H. S. Dybvik will be in charge of packaged products; and A. F. Johnson will be responsible for refrigeration products.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.



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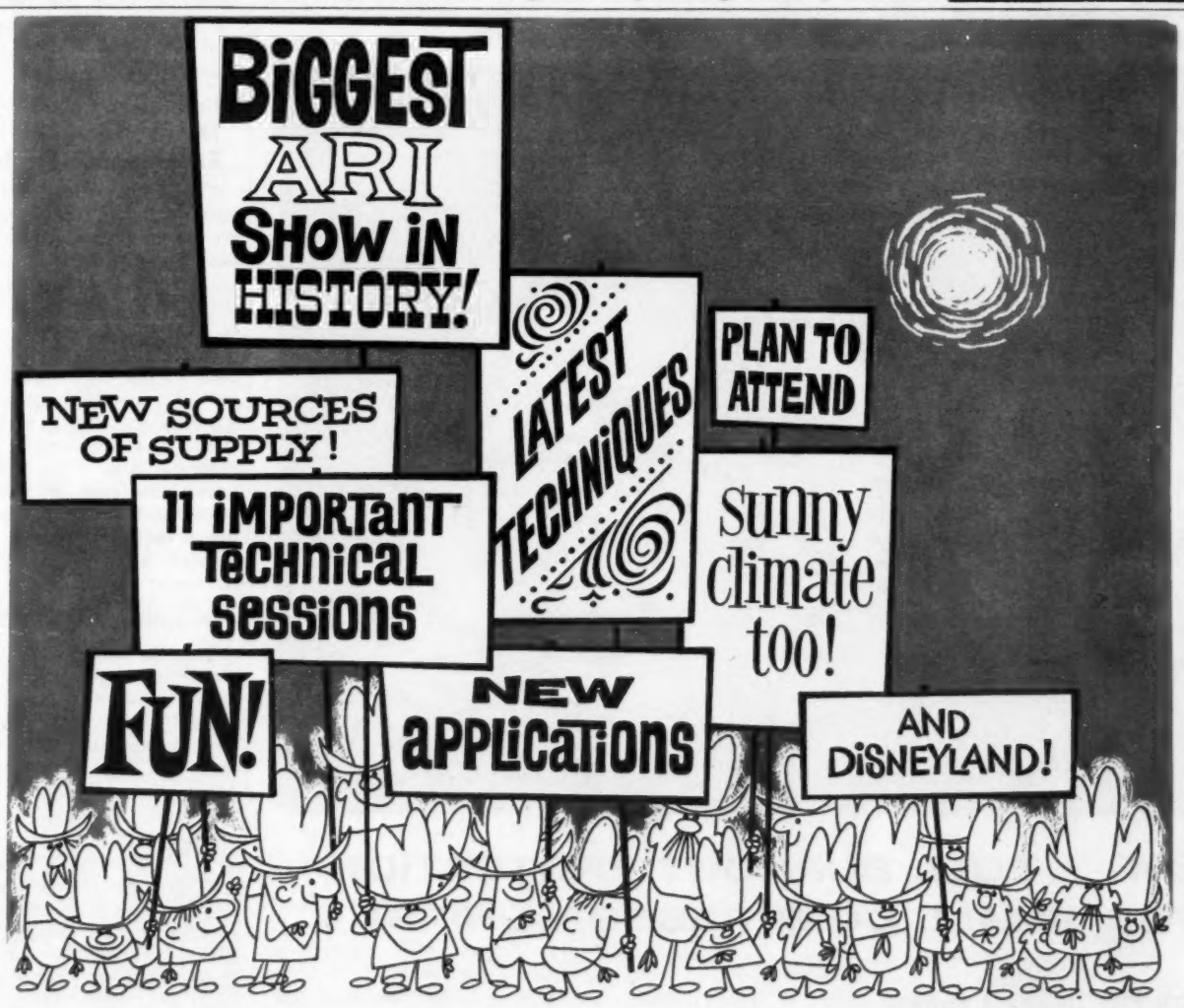

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What They're Saying, Doing

On the Industry's Firing Line Today

THIS COLUMN SPOTLIGHTS current outstanding activities and thought-provoking attitudes of those who are engineering, selling, installing, and servicing the industry's products.

Experience Shows Wisdom of Moving Product Through Wholesale Type Field Distribution

"It's working out fine—but for continued sales growth, which is what all of us are seeking, the wholesaler must develop personnel who can and will sell the product at a profit and who can offer engineering assistance where needed."

So stated Cary C. Wilson, vice president in charge of sales, Modine Mfg. Co., in discussing a new marketing program in which most of the items in the Modine line have been designated as "wholesaler products" and are being sold exclusively through wholesalers.

"Certainly the development of wholesaler personnel is not the entire responsibility of the wholesaler," Wilson pointed out. "It is up to the manufacturer to provide all kinds of educational assistance. And the manufacturer must spearhead the development of a unified program of sales education that goes all the way to the ultimate purchaser."

Modine's sales manager thinks that there is room for improvement through all stages of distribution of the industry's products in terms of the use of advanced sales techniques, methods of selecting salesmen, and presenting product data. He thinks he has proved his contention on some of these matters in his own operations. But that gets a little ahead of the story. What Modine did in terms of setting up a new approach to the distribution of its products for the heating and air conditioning field was described thusly by Wilson:

Factory Rep Decided How Territory Was To Be Handled

"For many years Modine products had been sold pretty generally as the factory representative wanted to operate in his particular territory," Wilson explained. "The size of the job and the general trade practices in the area might determine whether the job was sold through a wholesaler or direct to the installer.

M. J. DRUSE, Modine director of marketing and public relations; C. C. Wilson, vice president, sales; and Leo Glascock, sales manager, Heating & Air Conditioning Div., study flip chart presentation of the Modine Stocking Wholesaler Program.

"In 1957 we established a policy of marketing unit heaters through wholesalers exclusively. This worked out well and when we began to make some long range plans, the principal problems seemed to be the development of new products to keep up with the demands of customers, and most important, how we would market our products.

Wholesalers Lower Distribution Costs, Experience Indicates

"In addition to our experience with the sale of unit heaters exclusively through wholesalers, we made some market studies which led us to this conclusion:

"We could get our products into the hands of the ultimate user in the most efficient manner by selling through the wholesaler. What our experience and studies seem to clearly indicate was that wholesalers lower the cost of distribution while at the same time providing a better service to the contractor and improved market coverage for us."

Advantages to Contractor

Wilson ticked off the following reasons why it's to the contractor's advantage to purchase from the wholesaler.

It costs the contractor no more to buy from the wholesaler than to purchase direct—there are inherent costs in distribution of a product that have to be considered, no matter who performs the necessary services.

The wholesaler offers the contractor the advantage of immediate availability of product from local stocks. The wholesaler also offers delivery, credit, and sales and engineering assistance, and many other services, and all of these usually with little, if any extra charge to the purchaser.

Referring to the market studies made, Wilson cited one investigation which analyzed the orders for one particular product over a six months' period. Of 722 orders, 522 were for three units or less; 105 orders were for four to five units. With the cost of the particular item around $100, the average ordered worked out to about $360 and 627 orders of the total of 722 were for less than $500.

Small Orders In Many Cases Are Most Profitable for Mfr.

"While orders of this size can represent a nice profit to the wholesaler, I don't see how it would be possible for a manufacturer to handle such orders direct and expect to make money. Small orders make up the greater part of the market, and in many cases are most profitable."

In the past couple of years Modine has expanded its product lines considerably, and the "designated wholesaler products" now fall into four major groups:

1. Unit Heaters, which includes steam, gas, and electric unit heaters; and gas vertical delivery unit heaters; gas duct furnaces, and duct blowers.

2. Steam Specialties, which include radiator supply valves, double service valves, process steam traps, drip traps, thermostatic traps, strainers, and expansion joints.

3. Electrical Units, which include electric unit heaters, electric self-contained air condi-

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Operating Costs of Residential Air Conditioning and What This Means to Dealers and Installers. By R. A. Gonzalez—25¢ each.

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NOW... FULL BURNOUT PROTECTION FOR SMALL COMPRESSOR UNITS!

New KLIXON 7896 all-welded hermetic protector fits into windings of ½ to 2 hp single-phase motors!

This hermetically sealed, tubular protector extends the KLIXON Spectrum of Motor Protection to window air conditioners and heat pumps. It safeguards them against motor burnout . . . completely and economically.

Responsive to both current and temperature, the KLIXON 7896 prevents overheating over the widest range of ambient, voltage and running variables. Mounted directly on the motor windings . . . or within them . . . it's located at the heart of the burnout problem. So, it senses what's going on inside more accurately than external protectors . . . and responds before damage is done.

Two seals bar refrigerant! The KLIXON 7896 has a glass-to-metal hermetic seal in the header . . . and the header is welded to the tubular can. Result? Its leakage rate is less than 1 x 10 $^{-9}$cc per sec at one atmosphere differential. That's about 0.623cc in 20 years.

Design simplicity assures long-lived accuracy! The KLIXON 7896 is the simplest device in the small-size class. It has only one moving part . . . the famous KLIXON snap-acting disc . . . reliability-proved in more than 200,000,000 motors. NO springs, screws or sleeves to complicate calibration and encourage wear.

Quality control procedures are stringent! Five 100% tests of components and assemblies plus statistical test sampling of each 100% check group guard reliability all along the line. A final 2% destructive mass spectrometer leak test makes sure that you're getting a protector that can be safely sealed within any motor-compressor unit.

Play it safe! Specify KLIXON 7896 Motor Protectors for your next small motor-compressor units . . . and get a sales feature that will give you the competitive edge. Bulletin DD-MOPR-18 gives you all the facts. Write for it today.

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tioners, and ventilating fans.

4. Radiation, which includes baseboard heating, fintube radiation, and convector radiation.

These are "naturally grouped" packages of products, as Wilson sees them, which will fit particular kinds of installations, to the convenience of both the purchasing contractor and the selling wholesaler.

While some wholesalers are set up to handle all of these packages, the general policy is to set up stocking wholesalers who may specialize in the particular products—say a plumbing and wet heat wholesaler for the steam specialties and unit heaters, an air conditioning supplies wholesaler for the heating and air conditioning products, and possibly an electrical or industrial wholesaler where conditions dictate such a move.

The term "stocking wholesaler" is basic to the whole plan, and sales are made only to those so designated. Orders from other firms selling at wholesale are filled by stocking wholesalers in the area, with a discount structure such that it will be profitable to both of the companies involved.

Modine Notes 29% Sales In 4 Months

"The plan has worked well for us, with a sales increase of 29% from April 1 to Aug. 1," Wilson commented. "Yet, in the long run, it will depend on how well we get the wholesaler to train his men to sell our products.

"We've geared up an active campaign to give the wholesalers a wide variety of help. This includes promotion packages for each group of products, incentive programs for the sale of replacement jobs, and the assistance of our field men on special or complicated jobs.

Wholesaler Must Upgrade Selling Effort

"But we can't do the real selling job for the wholesaler. He must upgrade his whole sales effort—and that starts with the selection and training of salesmen, salesmen who have the guts to get the price their product and their service are worth to the customer."

Wilson puts a lot of faith in what many businessmen consider to be a controversial subject—aptitude tests for the selection of salesmen.

"I believe in it because I've seen it work," he says. "After all, there are certain attributes a salesman must have, and I think it's better to rely on a scientific evaluation than a personal judgment.

"Then when the salesman gets into the field, the important factor in directing his activities is to see that he has up-to-date product and engineering information — both in his head and in written form.

"Manufacturers can offer printed material and training courses, but it is up to the wholesaler or whoever may be managing his salesmen to see that the salesmen absorb the information, and get it into the hands of those who will specify and buy the manufacturers product."

Robertshaw-Fulton Licensed To Manufacture Airtemp Cold Weather Damper Control

E. B. Maire (left), assistant vice president and general manager of the Bridgeport Thermostat Div., Robertshaw-Fulton Controls Co., discusses the cold weather damper motor control with Paul W. Wyckoff, director of engineering at Chrysler Airtemp.

DAYTON — Chrysler Corp.'s Airtemp Div. has signed a license agreement permitting Robertshaw-Fulton Controls Co. to manufacture a cold weather damper control.

Paul W. Wyckoff, director of engineering at Chrysler Airtemp, said the damper control would be available to other air conditioning manufacturers through the licensee.

"The control solves a problem peculiar to winter air conditioning," it was stated.

"In some applications, such as computer rooms, restaurants, and meeting places, air conditioning is required even when snow is on the ground. It is frequently more economical to install air conditioning equipment in an inside space to remove the excess heat than it is to bring in the 'free' cold outside air and control it properly.

"One of the long-standing problems of this type of air conditioning application is that the cool outside temperature, to which the heat of the room is rejected by the air conditioner, makes it 'too easy' on the air conditioning compressor. Internal refrigerant pressures drop so low that the unit will cut out on its safety devices.

"Several years ago Ralph S. Braden, a Chrysler Airtemp laboratory development engineer, devised a simple bellows motor connected directly to the discharge of the refrigerant compressor. This operated a series of dampers which closed off the air to the outside condensing unit in order to keep the compressor pressure up."

The simplicity of this development "won considerable popularity for these special cold weather applications and resulted in a number of inquiries for other manufacturers," it was pointed out. Wyckoff said Chrysler Corp. decided it should be made available to the entire industry.

Previous devices used in the industry required the addition of a great deal of extra refrigerant and necessitated breaking into the refrigerant circuit, it was stated.

Wyckoff said the damper control would be manufactured by the Bridgeport Thermostat Div. of Robertshaw-Fulton at its Milford, Conn. plant.

NEWS readers are invited to write to the editor giving their opinions on any subject of interest to the industry.

Super Supply Co. Moves Into Air Conditioned Building Following Fire

YORK, Pa.—Super Supply Co. of Greenville, S. C., long-time distributor of York air conditioning and refrigeration products, whose former building was extensively damaged by fire last December, has moved into a new air conditioned building located at 50 Grand Ave., Greenville.

The new establishment representing a cost of more than $50,000 provides a 10,000-sq ft area and includes five offices, a drafting room, and a conference room.

Super Supply employs upwards of 40 people who serve western South Carolina and a portion of North Carolina under the direction of John W. Jennings, president.

"Let's lay it on the line"

THE WATSCo

GOLD SEAL LINE TAP VALVE

Instantly pierces tubing . . . to provide a permanent port for charging, discharging and testing without refrigerant loss!

USE WITH GOLD SEAL SWIVEL CONTROL VALVE GV-1G or GV-2G.

- Small, compact, low cost
- Taps into any refrigeration line from 3/16" O.D. to 5/8" O.D.
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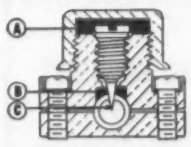
- Engineered to fit respective size line — can't bend or crimp tubing.
- May be installed without refrigerant loss even while unit is operating.



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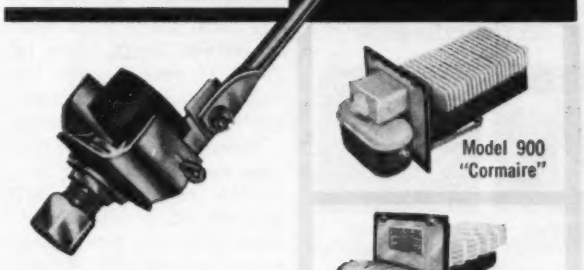
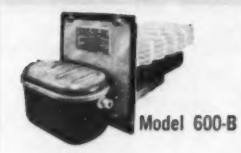


For the ultimate in a truly trouble-free float valve, Skuttle Manufacturing Company has developed this new mechanism. Designed with no moving parts, it offers the maximum in operating efficiency in all Skuttle float type humidifiers.

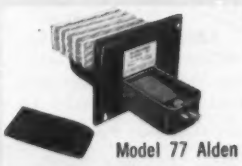
The unique design of the reversible heavy-duty valve seat enables it to act as a splash shield, and chrome plated valve jet assures positive shut-off. The new single pivot valve will keep the water at a proper level for constant operation of any Skuttle float-type humidifier. Write today for complete information on Skuttle's quality line of humidifiers.

Model 900 "Cormaire"


Model 600-B

Model 600

Model 450


Model 77 Alden

Skuttle MANUFACTURING COMPANY
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Industrial Heating, Ventilating Economics Discussed by Eckert at Region 5 ASHRAE

By Frank J. Versagi

COLUMBUS, Ohio — "Let's face it; heating and ventilating have no glamour. Sure, there have been improvements in refractories, heat exchangers, control systems—but a 1921 plant engineer or master mechanic walking into a modern plant could very soon become acquainted with and understand the plant heating system.

"But, would a 1921 office manager recognize today's calculator or copying machine? Would a 1921 sales manager understand a market research data computer?"

Louis Eckert, Dravo Corp., Cleveland, introduced his discussion of the economics of industrial heating and ventilating by acknowledging the lack of glamour in these technologies.

Speaking before the Region Five annual meeting of the American Society of Heating, Refrigerating & Air-Conditioning Engineers, Eckert stressed that hard cash savings and long life of equipment can and must be cited to assure the heating industry its proper share of business in new plant construction and in remodeling of old plants.

"A new production machine will probably be obsolescent in a few years, certainly 10," he said, "but the very nature of heating and ventilating equipment and its history indicate the much slower obsolescence both as to system and to equipment. Too, a production increase capability of itself will not produce savings; sales must be maintained or increased to take advantage of the production machine's potential. A cost-reducing heating plant, however, returns savings regardless of sales volume or anything else, except that the plant be open for business."

Types of Heating Plants Listed

Normally considered types of industrial heating plants are remotely located package boiler wet systems, individual forced warm air space heaters, and infrared radiant units, Eckert summarized. "There are good applications for each of these systems and in many cases, the best solution is a combination of them," he said. He suggested, however, that for the average size mill, factory, or warehouse of 100,000 sq ft, open bay and 20-40 ft roof height, the individual warm air space heater carries the lowest original cost.

Eckert split warm air heaters into two types: unit heaters—having capacity of 20,000 to 300,000 Btuh, suspended, gas-fired, propeller fan heaters; and space heaters—150,000 to 5,000,000 Btuh, gas or oil fired, centrifugal blower units.

"Although on a Btu per dollar basis, the equipment cost of the unit heater is usually lower than that of the space heater, often the proper air distribution forces unit heater selection of a smaller capacity per unit, resulting in a lower cost for the space heater system."

Generally speaking, he said, unit heaters cost less for equipment but more for installation. Attacking misapplication of good equipment, Eckert cited several examples of "pushing on a rope." One such example is suspending space heaters, according to the Dravo Corp. spokesman. "Suspending warm air equipment above 10 ft. from the floor, lowers its space heating ability about 10%."

One important rule of application, according to Eckert: "In an open area building, when the perimeter is heated, the building is heated. He cited an installation in a building measuring 1,000 by 1,000 ft. Floor-mounted space heaters were located along the perimeter only, and workers are comfortable throughout the building, even though they may be 500 ft away from a heat source, he claims.

Relative Efficiences Of Several Types

Discussing the relative efficiencies of several types of heating, Eckert stated that package boilers, with steam or hot water unit heaters, have a combustion efficiency of about 80%, "but the over-all system efficiency is only 50%-60%." According to Eckert, this lower net efficiency is realized basically because the heat energy is transported to the space to be heated in unstable form.

Gas-fired suspended unit heaters are rated at 75% combustion efficiency, but operate under uncontrolled conditions of an atmospheric burner and depend upon natural draft in practice. "This, plus the fuel consumed with constant pilot operation, reduces the combustion efficiency by 5%-10%. A further system efficiency reduction lies in the higher roof temperatures with suspended equipment. This can add as much as 15% to the seasonal fuel requirements," he said.

Space heaters, too, are rated at 80% efficiency. "Unlike boilers, however, they transform the stable chemical heat energy right in the area requiring heat. Their advantage over the unit heater lies in the fact that combustion efficiency can be maintained in normally occurring plant and atmospheric conditions through the use of power burners and power exhausters."

Eckert divided infrared gas-fired radiant heaters into two classifications—vented and unvented. He stated that vented radiant heaters are the most expensive to operate. Gas-fired radiant equipment has a combustion efficiency of only 40%-60%, "but since the primary comfort heating is achieved through direct radiation, the plant air temperature can be maintained 10°-15° below that required for air systems. Properly applied, this fact and the fact that upper wall and roof heat losses are counteracted by the combustion gases result in a system efficiency of about the same as properly applied space heaters."

Discussing the calculations used for determining fuel consumption, Eckert insisted, even after questioning from the audience, that the use of the ASHRAE Guide's Degree Day Method for estimating fuel consumption results in estimated consumptions 30%-50% higher than actual consumption. Consensus of those who agreed seemed to be that the ASHRAE method is valid for residential calculations, but cannot be extrapolated without change to commercial and industrial applications.

Sees Rise In Use of Open-Flame Equipment

Eckert predicts that there will be increasing usage of open-flame combustion equipment. This is the equipment in which the combustion gases, themselves, enter the structure. A major advantage of such heating, he says, is "you do not have to heat the air to 120°; you heat it to 65° for whatever room temperature you are to maintain."

Eckert acknowledged that there are problems with condensation of moisture when the gases encounter cold metal surfaces, and some materials in the structure may be affected by residual chemicals in the combustion gases.

Air-X Names Wheaton

NEW YORK CITY — James Wheaton, formerly district sales representative for Fedders Corp., has been appointed chief sales engineer of the Residential Heating Div. in the Long Island area for Air-X Industries, Inc.

Garrison Named Education Director By Fuel Oil Group

NEW YORK CITY—Edward W. Garrison has been appointed education director for the new National Oil Fuel Institute, national association for all segments of the oil heating industry, NOFI President Glenn L. Werly announced.

Garrison

He will direct a new over-all educational program for the institute.

Since 1956 Garrison has been training manager for the heating and air conditioning division of Stewart-Warner Corp., Lebanon, Ind.

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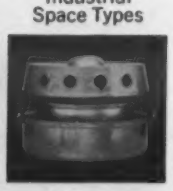

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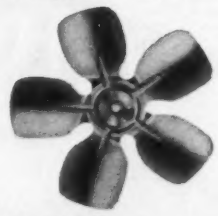

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FREE PARKING AND FAST COUNTER SERVICE AT THESE 4 BIG WAREHOUSES

NHAW Convention Program--

(Continued from Page 1, Col. 1)

A social hour and reception will be held Sunday evening.

Monday's events include committee meetings in the morning, a luncheon, and a workshop panel session in the afternoon. Dr. Gerald Wendt, president, National Agency for International Publications, will speak at the luncheon on "Education for the 21st Century."

The workshop session will be divided into two parts. The first half will cover "The Problem and Challenge of the Cash and Carry Discount Houses"; the other will tackle the question, "What Can Be Done About the Discount House Problem?"

A general membership meeting will be held Tuesday morning, followed by a business conference program. The latter is designed to give wholesalers the opportunity to confer with top executives of their manufacturing suppliers.

A social hour and reception and the annual banquet are planned for Tuesday evening.

The Wednesday program will get under way with a workshop panel session on "How Can A Wholesaler Conduct a Successful and Effective Market Analysis?" Next will be a sales presentation by F. S. Donnelly, Jr., manager of low temperature insulation sales, Armstrong Cork Co.

Waite C. Hoyt, Cincinnati sportscaster, will be the luncheon speaker.

Program

SUNDAY, NOV. 26

10:30 a.m.—Registration.
10:30 a.m. — Trustees meeting and luncheon.
6:30 p.m.—Social hour and reception.

MONDAY, NOV. 27

8 a.m.—Registration.
9 a.m. — Committee meetings — Air Conditioning; Distribution Policy; Education; Standardization; Statistical; Associate Member.
Noon—Luncheon. Presiding: J. Orville Garrett, NHAW president. Welcome: A. D. "Dan" Julian, general convention chairman. Speaker: Dr. Gerald Wendt, president, National Agency for International Publications. Subject: "Education for the 21st Century."
2:15 p.m.—Workshop panel session (first half)—"The Problem and Challenge of the Cash and Carry Discount Houses." Moderator: Edwin A. Scott, Jr., publisher, Scott Periodicals. Panel members: V. J. Heinis, Rheem Mfg. Co., Chicago; Victor Prince, W. C. Downey & Co., Inc. ,Springfield, Ohio; Syl Van Schyndel, Badger Metals, Inc., Appleton, Wis.; F. Robert Walker, American Air Filter Co., Louisville, Ky.
3:30 p.m.—Workshop panel session (second half)—"What Can Be Done About the Discount House Problem?"

TUESDAY, NOV. 28

8 a.m.—Registration.
8 a.m.—General membership breakfast.
9:15 a.m.—General membership meeting.
Reports of officers, executive director, committee chairmen, and nominating committee.
Discussion of problems of general interest to the membership and the industry.
11:30 a.m.—Business conference program.
1:30 p.m.—Buffet luncheon in the conference booth area.
4:30 p.m.—Conference area closed.
6:30 p.m.—Social hour and reception.
7:30 p.m.—Annual banquet.

WEDNESDAY, NOV. 29

8:30 a.m.—Registration.
9 a.m.—Workshop panel session—"How Can a Wholesaler Conduct a Successful and Effective Market Analysis?" Moderator: C. M. Spicer, president, C. M. Spicer & Associates, market research analysts, Cincinnati. Panel members: Ben F. Carter, General Equipment Co., Raleigh, N. C.; Harold W. Squire, Squire Heating Supply Co., Columbus, Ohio; Norman Judelson, American-Standard, New York City; Paul E. Jensen, The Williamson Co., Cincinnati.
11 a.m.—Sales presentation—"How—Not If"—F. S. Donnelly, Jr., manager of low temperature insulation sales, Armstrong Cork Co., Lancaster, Pa.
Noon—Luncheon. Speaker: Waite C. Hoyt, sportscaster, Cincinnati.
2:30 p.m. — Officers and trustees meeting.

American Tube Names Turner Vice President

WEST WARWICK, R. I.—Following a recent meeting of the board of directors of American Tube & Controls, Inc., here, it was announced that Ralph Turner had been named a vice president, heading the company's Finned Tube Div.

Turner brings to his new responsibilities more than 25 years of experience in the management and engineering areas of the metals industry. He has been associated with American Tube & Controls since April, 1961.

Pocket Guide Gives Engineering Data

SYRACUSE, N. Y.—A pocket reference engineering guide prepared by Carrier Air Conditioning Co. contains on both sides of a 3½ by 6½-in. plastic-enclosed card key data used by designers of air conditioning systems, consulting engineers, and architects.

A psychrometric chart, refrigerant weights, volume, enthalpy and pipe sizes, and approximate heating and cooling operating costs and capacity requirements for typical uses.

Conversion and air cooling formulae, sheet metal weights per lineal foot, and formulas for determining fixed charges complete the card, which is available upon request from Carrier offices located in principal cities.

R. F. Parsons

A. K. Tinker

Crane Names--

(Continued from Page 1, Col. 4)

years.

He is now with the Group's headquarters, Johnstown, Pa. In his new position, Parsons has responsibility for the marketing of plumbing products, hydronic and warm air heating equipment, air conditioning units, and marine products made in the Group's 14 manufacturing plants and distributed through 19 sales offices to wholesalers and contractors.

It was also announced that to provide more effective service to wholesalers, Alex K. Tinker has been appointed to the newly-created post of manager of distributor development by Casner.

In his new position, Tinker will strengthen the company's announced policy of working with the independent wholesaler, it was stated.

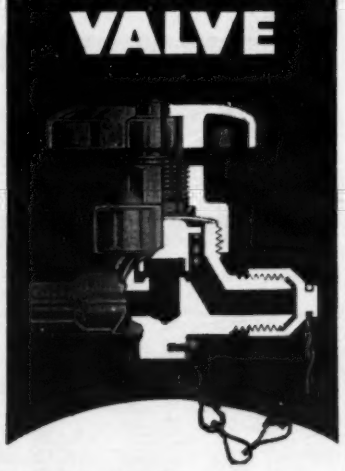
Formerly marketing director of the Group, Tinker will continue to make his headquarters in Johnstown, and report directly to the vice president.

Flexible Tubing Outlet

GUILFORD, Conn. — Flexible Tubing Corp. has named the Alfred J. Hamilton Co., Hartford, Conn., to handle its "Thermaflex" air conditioning products in Connecticut.

Precision Designed for
REFRIGERATION and AIR CONDITIONING SYSTEMS

THE NEW
KEROJET
CHARGE, PURGE and DRAIN
VALVE



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- Full open height only 2¼"
- Seal cap with chain attached
- 2½" diameter handwheel, colored for easy identification

Designed for ease of operation, this new valve features compact packless diaphragms of beryllium copper and stainless steel, for maximum resistance to wear. Rugged forged brass body has integral mounting flange. Maximum operating pressure, 500 p.s.i. Maximum temperature, 200° F. Connection size inlet ⅜" solder connection—outlet ⅜" male flare. See your Kerotest wholesaler today.

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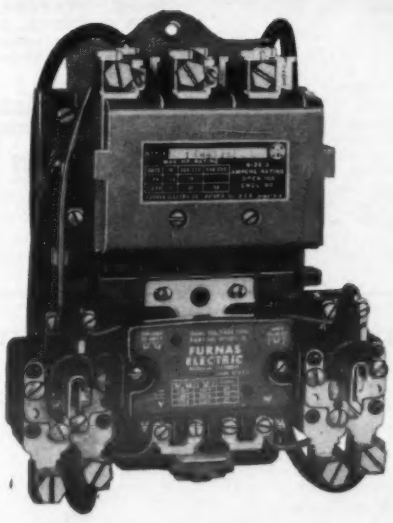

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The new compact Furnas Size 3 magnetic starters, 1/3 smaller than other Size 3 models, incorporate inherently trip-free melting alloy type thermal relays for greater motor protection, and a simplified, low wattage, electromagnet design. For 2, 3 and 4 pole, 30-50 hp.

- Dual voltage, dual frequency encapsulated coils. Standard on all sizes.
- 1/3 smaller than other models, yet has 1/3 more wiring room.
- Silver-cadmium oxide contacts; pressure terminals; front removable parts.
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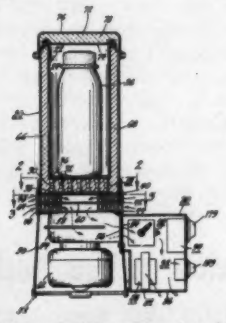
FURNAS

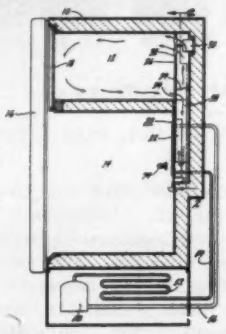
PATENTS *Week of July 11*

2,991,628. REFRIGERATING APPARATUS. Harvey R. Tuck, Trotwood, Ohio, assignor to General Motors Corp., Detroit, Mich., a corporation of Delaware.



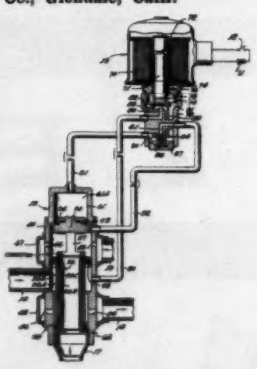
1. Thermoelectric apparatus including an inner casing enclosing a storage compartment, a thermocouple array having first type of junctions located adjacent to and in thermal exchange with said inner casing and a second type of junctions spaced from said inner casing, air heat transfer fin means adjacent to and in thermal exchange with said second type of junc-

2,991,630. REFRIGERATING APPARATUS WITH DEFROST CONTROLS. Clifford H. Wurtz, Dayton, Ohio, assignor to General Motors Corp., Detroit.



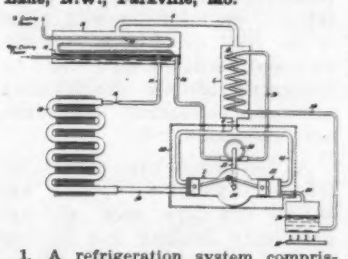
1. In a refrigerator having a frozen food storage compartment and an above freezing storage compartment, means for refrigerating said compartments including an evaporator having its one side exposed to air in said above freezing food storage compartment, first means forcefully circulating air from said frozen food storage compartment into thermal exchange relationship with the other side of said evaporator, means controlling the operation of said evaporator so as to cycle the temperature thereof between a below freezing temperature and an above freezing temperature at which the frost thereon melts, and second means forcefully circulating air from said above freezing compartment into thermal exchange relationship with said evaporator during the frost melting portion of the cycle so as to accelerate the melting of frost thereon.

2,991,631. REVERSE CYCLE REFRIGERATION SYSTEM AND FOUR-WAY TRANSFER VALVE FOR SAME. William A. Ray, North Hollywood, Calif., assignor to General Controls Co., Glendale, Calif.



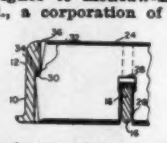
1. A four-way transfer valve comprising a valve casing, a first and second series of circumferentially arranged valve ports in said casing with said first and second series being spaced from each other, separate manifold means surrounding each of said series of ports and each manifold means being in communication with a first and second conduit, a movable valve member in said casing and carrying a pair of spaced seals each engaging adjacent inner portions of said valve casing, one of said pair of seals having a diameter greater than the other of said pair, said pair of seals defining an annular space with the inner wall of said casing. . . .

2,991,632. REFRIGERATION SYSTEM. John G. Rogers, 7200 Maple Lane, N.W., Parkville, Mo.



1. A refrigeration system comprising a compressor, a condenser and an expander in a closed operating circuit containing a compressible refrigerant; means operable to drive said compressor and adapted to be powered by a vapor under pressure; a driving circuit operable to extract refrigerant from said operating circuit in a compressed state and to return it to said operating circuit at a point intermediate said compressor and said condenser, said driving circuit including in series a pump operable to increase the pressure of said refrigerant. . . .

2,991,707. AIR DIRECTING LOUVER DEVICE. Albert B. Goetti, Phoenix, Ariz., assignor to McGraw-Edison Co., Elgin, Ill., a corporation of Delaware.

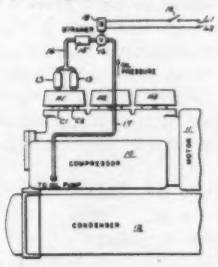


1. In a louver slat construction the combination of: a frame; a first slat fixed in said frame and having a substantially V-shaped notch; a second slat intersecting said first slat and having a U-shaped notch meshing with the V-shaped notch of said first slat; inner portions of said notches of said slats being adjacent each other and each provided with arcuate cylindrically shaped bearing structure, said arcuate bearing structures having a concentric pivotal axis for one of said slats relative to the other and permitting movement of one slat within the angular limits of said V-shaped notch in the other slat, said arcuate cylindrically shaped bearing structure of one slat being frictionally engaged for more than 180° around the arcuate cylindrical bearing structure of the other one of said slats thereby pivotally interconnecting said first and second slats and maintaining them in engagement at their meshing notch portions.

2,991,796. EVAPORATIVE COOLER WATER CONTROL. George J. Beisch, Shelton, Conn., assignor to General Electric Co., a corporation of New York.

1. In an evaporative cooler: a water tray having a bottom wall; a water inlet opening formed in said bottom wall; a water director positioned over said water inlet opening; a slot formed in said water director adapted to register with said water inlet opening to form an unrestricted passage for the flow of water; and a water deflector wall formed integrally with said water director positioned above and spaced from said slot for directing water against the bottom wall of said water tray.

2,991,924. UNLOADERS FOR REFRIGERANT COMPRESSORS. William G. Ramsay, Staunton, Va., assignor to Westinghouse Electric Corp., East Pittsburgh, Pa.



1. In an unloader for a cylinder of a refrigerant compressor having suction valve reeds of spring metal, said reeds normally being biased by their spring tension to closed positions, said cylinder having an unloader cylinder, said unloader cylinder having a piston therein, said unloader including means connecting said piston and reeds for moving said reeds to open positions when oil is admitted into said unloader cylinder against said piston, said unloader including oil supply means including an oil inlet in said unloader cylinder connected to said compressor for supplying oil from said compressor into said unloader cylinder for causing said piston to move said reeds to open positions for unloading said compressor cylinder, said unloader including means connected to said supply means between said compressor and said oil inlet for shutting off the supply of oil to said unloader cylinder. . . .

(To Be Continued)

Editor's Note: Patents described here have been selected from the "Official Gazette" of the United States Patent Office. They offer only a brief summary of each invention. In some instances only the first part of the digest is presented.

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SERVICE MANAGER. Old line Chicago service company with large number of servicemen needs experienced service manager with ambition. Must be experienced in employment, training, administration in refrigeration and air conditioning to 100 tons. Also heating. $10,000.00 year to start. Send complete resume. BOX A6917, Air Conditioning, Heating & Refrigeration News.

AIR CONDITIONING, refrigeration and heating contractor needs young, ambitious, energetic, capable engineer-salesman with Chicago clientele among general contractors, architects, engineers, and users. Large, long established organization with full installation and service facilities. Ability and hard work will pay $12,000 to $20,000 per year. BOX A6918, Air Conditioning, Heating & Refrigeration News.

PRODUCT ENGINEER. National company seeking man with experience in application and/or product design engineering for air conditioning and refrigeration controls and valves and/or fractional hp. hermetic compressors. New position with growth potential. Northeast location. Send resume and salary desired. BOX A6919, Air Conditioning, Heating & Refrigeration News.

SALES ENGINEER—Tech graduate or equivalent with ammonia refrigeration and sales experience capable of handling load calculations, equipment selection and pricing through to contract closing, by well established franchised York associate and contractor, Pittsburgh, Pa., tri-state area. Salary commensurate with qualifications. Reply with complete resume to BOX A6920, Air Conditioning, Heating & Refrigeration News.

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COMPRESSORS AND parts, new or used and repairable; Brunner, General Electric, Copelametic, Mills, etc. Give full details as to model number, horsepower, quantities, etc. Write UNITED REFRIGERATION CORPORATION, 514, W. 12th St., Los Angeles 15, California.

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USED YORK 150 hp air conditioning system consisting of three 3¾ x 3 direct drive compressor with 50 hp—208V motors on bases, increment starters, chiller, condenser receiver, oil heater, oil separators and miscellaneous parts. Compressors and chiller need rebuilding. Best offer. Contact Mr. Nilan, RIDGEWAY CENTER ASSOCIATES, 26 Sixth St., Stamford, Conn., FIreside 8-4431.

ATTENTION REFRIGERATION Servicemen. Send for catalog listing values in refrigeration and air conditioning parts, relays, capacitors, compressors. Savings up to 50%. WALTER W. STARR, 2833 Lincoln Ave., Chicago 13, Illinois.

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The NEWS four-point-issue dates:

DECEMBER 4, 1961	Preliminary information on the Show . . .
JANUARY 8, 1962	Traditional "Pre-Show" issue. Complete preview of individual exhibits.
FEBRUARY 12, 1962	The Show Issue.
FEBRUARY 26, 1962	The Post-Show Issue. Complete wrap-up of Show-Week activities.

Last Forms close 12 days preceding date of issue.

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DETAILS

12th National Exposition Air Conditioning Heating & Refrigeration Industry

WHEN: February 12-15, 1962

WHERE: Los Angeles, California, Great Western Exhibit Center

Exhibit Hours:

February 12	2 P.M.	to	10 P.M.
February 13	10 A.M.	to	6 P.M.
February 14	10 A.M.	to	6 P.M.
February 15	10 A.M.	to	4 P.M.

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WHO WILL ATTEND: Industrial and commercial buyers, contractors, dealers, distributors, wholesalers, manufacturers and engineers from every phase of the industry. It will be the first National show of this magnitude to be held west of Chicago.

HEADQUARTERS HOTELS: Biltmore and Statler Hilton. Reservations should be made through ARI 12th Exposition Housing Bureau, 404 South Bixel St., Los Angeles 54, California.

SHOW DIRECTOR: George E. Mills, 1346 Connecticut Ave., Washington 6, D. C.—Telephone COlumbia 5-0405.

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New Mexico Bid Depository--

(Continued from Page 1, Col. 2)

"After a few meetings of the committees, it was agreed that a bid depository was the logical solution. Work was started on a set of rules and procedures which would be acceptable to all.

After studying many depositories and their history it was agreed that (1) the system must be open to all who desire to use it; (2) the system could not be restrictive in any form whatsoever to any users; and (3) all bids, whether bid through the depository or not, must be obtained and published."

Stripling said the method adopted is entirely voluntary by bidders and recipients.

"There are no signators to any agreement of any sort," he pointed out. "It is merely a service to receive, distribute, and tabulate bids which are deposited by the users."

The system went into use on Feb. 9, 1961, in the depository established at the Albuquerque National Bank Trust Dept.

Since that date, six other depositories have been established in other cities over the state, according to Stripling. All depositories are located at the trust department of a bank which is centrally located in these various cities.

"A full time director was employed in June and the success of the system has exceeded expectations," Stripling said. "Further expansion as to scope of users and area is being carried out.

"Several other crafts have been invited to discuss use of the depository system and additional depositories will be established to eventually blanket the state."

Stripling said highlights of the operation include the following:

"1. A bid form for mechanical contractors and electrical contractors is tailored by the director for each job. A copy of these forms are furnished the general contractors bidding, the architect, and engineer of the job, several days before bid date so that they will have advance notice as to how the bids will be submitted.

"2. The general contractor's agent must call for their bids at the depository and if they have received any bids outside the depository, these bids must be left with the bank, in a sealed envelope, before the bank will release depository bids to them. The general contractor's agent must sign a statement that they will not accept bids outside the depository after the depository time has elapsed.

"3. After the time set for the general contractors to bid to the awarding authority, the bank opens and tabulates the copies of the mechanical and electrical bids submitted to the various general contractors. A copy of this tabulation is mailed to the architect, the engineer, each mechanical, electrical, and general contractor who bid the job, and any other interested parties.

"4. To finance the operation of the system the mechanical and electrical contractors who are awarded a job which they have bid through the depository, contribute one quarter of one per cent of the contract, with a maximum contribution of $1,000 on any job."

The Pipe Trades Industry Program continues to underwrite the expenses of the system until such time it becomes self-sustaining, Stripling noted.

Unitary Sales--

(Continued from Page 1, Col. 5)

rable to those used for large system installations.

As already reported by ARI, but repeated here for comparative purposes, the total number of unitary air conditioners shipped by manufacturers in 1960 was 312,380 of which about 215,000 were for residential installation.

The ARI also reported earlier that the estimated installed value of central station air conditioning systems put in place in 1960 was $800,810,000.

Adding this to the total for unitary installations, results in a total of $1,406,025,150 for installed value of all types of air conditioning, except room units, put in place in 1960.

Installed value includes not only cost of actual air conditioning equipment, but the cost and placing of ductwork, grilles, wiring, and other materials needed to make the equipment operative within the conditioned space.

A unitary air conditioner is described as a factory-packaged assembly of components in a suitable housing or housings including all internal piping and electrical wiring such that the package may be readily installed with a minimum of field work.

R. L. Bailey

A. O. Leapley

Refrigerating Specialties Names Bailey, Leapley

CHICAGO — Refrigerating Specialties Co. has announced the appointment of Robert L. Bailey and Albert O. Leapley as product sales managers.

Bailey was previously employed by Service Parts Co., Vilter Mfg. Corp., and H. A. Phillips Co. In his new position, Bailey will concentrate nationally upon ammonia control valves and their applications.

Leapley has been a sales engineer with the company. He will now nationally handle OEM and wholesaler accounts for halocarbon refrigerant controls.

Johnson Elected to Remington Board

AUBURN, N. Y.—The election of E. Moise Johnson to the board of directors of Remington Corp. was announced by Herbert L. Laube, president.

Johnson, who has been associated with Remington since 1948 and a vice president since 1958, is chief marketing executive of the Remington Air Conditioning Div.

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Each Type "5" coil features practically an unlimited flexibility in selection of coils to more accurately meet load requirements. Standard coils are furnished with copper headers and flow-controlled circuiting to assure the turbulent fluid flow necessary without using restrictive internal devices.

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